The Chief Public Health Officer's

REPORT ON THE STATE OF PUBLIC HEALTH IN CANADA

2011

Youth and Young Adults —
Life in Transition

Canada

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A Message from Canada's Chief Public Health Officer

Dr. David Butler-Jones
Chief Public Health Officer of Canada

This report is my fourth as Canada's Chief Public Health Officer. The intent of these reports is to inform Canadians and stimulate a dialogue on the many factors that contribute to good health and what we, as a society, can do to advance public health in Canada. In this report, I have chosen to focus on the health and well-being of Canada's youth and young adults. I have also highlighted areas where we can collectively take action to ensure the best possible future for our youth.

The path each of us takes from childhood to adulthood is varied and complex. Although the period of adolescence and young adulthood in Canada is generally a time of good health, it is also a time of significant biological, psychological, economic and social transition. This period marks a time where many lifelong attitudes and behaviours are established, setting the stage for future health and well-being.

When I was young, the path to adulthood was relatively well understood and predictable. The path young people follow today is less formulaic and much longer. This can be attributed to a number of factors, from a changing job market, to demands for more education, to changing attitudes towards marriage, sexuality and co-habitation, to greater cultural diversity in Canada with a wider variety of values.

Historically, Canada was a very different place in other ways as well. Hospitals were filled with children suffering the complications of polio. Motor vehicles were far less safe, smoking was not considered a major health hazard, birth control was not easily accessible and few antibiotics were available to treat infections. While we have made much progress, new challenges need to be addressed.

Generally speaking, Canadian youth and young adults are healthy and highly resilient, and most are successfully making the transition to adulthood. But not everyone is flourishing. Those who are not doing well are disproportionately represented by youth from low-income families, youth who live in remote communities, sexual and gender minority youth and Aboriginal youth.

This report highlights selected health issues for youth and young adults today, such as injuries, obesity, sexual

> *"...age is foolish and forgetful when it underestimates youth..."*
> – J. K. Rowling, *Harry Potter and the Half-Blood Prince*

health practices, mental illness and substance use and abuse, all of which can negatively impact healthy transitions to adulthood. These issues represent worrying trends, and yet the evidence shows that the behaviours, practices and circumstances that give rise to these issues can be improved.

I am concerned about those young people who are not able to make a successful transition to adulthood and who may not see a future for themselves. Franklin D. Roosevelt once said, "We cannot always build the future for our youth, but we can build our youth for the future." This is an insightful observation, and I am confident that, with long-term vision, planning and collaboration, we can strengthen the health and well-being of all youth and young adults in Canada and better reach those who need our help.

Without a doubt, governments at all levels have a role in building enabling environments. But, as with most public health activities, close collaboration across sectors, jurisdictions and levels is essential. As is usually the case, we need a "whole- society" approach, with governments, communities and families working together closely.

This year marks the 25th anniversary of the Ottawa Charter for Health Promotion. This influential document recognized the importance of involving communities in priority setting and managing their environment. It also recognizes the importance of people feeling they have control over their destinies. I am struck by the lasting relevance and impact of the Ottawa Charter. It is important that, as we address issues of concern to all Canadians, we remember that it is less about doing things to people, than it is about creating supportive environments that allow people to take charge of their own futures. Having enough resources for the basics of life is essential. But having influence over our situation - loving and being loved, feeling safe and secure, being able to plan the future with confidence, and having some control over our living and working conditions - is often the difference between mediocre or poor health, and great health. Of course, public health has a vital and enduring role. We will be called upon to work with other sectors, advising them on what we can do together to help all Canadians maintain their health and to transition in a healthy way.

David Butler-Jones

Dr. David Butler-Jones

Dr. David Butler-Jones is Canada's first and current Chief Public Health Officer. He heads the Public Health Agency of Canada which provides leadership on the government's efforts to protect and promote the health and safety of Canadians. He has worked in many parts of Canada in both Public Health and Clinical Medicine, and has consulted in a number of other countries. Dr. Butler-Jones has taught at both the undergraduate and graduate levels and has been involved as a researcher in a broad range of public health issues. He is a Professor in the Faculty of Medicine at the University of Manitoba as well as a Clinical Professor with the Department of Community Health and Epidemiology at the University of Saskatchewan's College of Medicine. From 1995 to 2002, Dr. Butler-Jones was Chief Medical Health Officer and Executive Director of the Population Health and Primary Health Services Branches for the Province of Saskatchewan. Dr. Butler-Jones has served with a number of organizations including as: President of the Canadian Public Health Association; Vice President of the American Public Health Association; Chair of the Canadian Roundtable on Health and Climate Change; International Regent on the board of the American College of Preventive Medicine; Member of the Governing Council for the Canadian Population Health Initiative; Chair of the National Coalition on Enhancing Preventive Practices of Health Professionals; and Co-Chair of the Canadian Coalition for Public Health in the 21st Century. In recognition of his service in the field of public health, York University's Faculty of Health bestowed on Dr. Butler-Jones an honorary Doctor of Laws degree. In 2010, Dr. Butler-Jones was the recipient of the Robert Davies Defries award, the highest honour presented by the Canadian Public Health Association, recognizing outstanding contributions in the field of public health.

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Table of Contents

A Message from Canada's Chief Public Health Officer i
Acknowledgements iii
Executive Summary 1
Chapter 1: Introduction 7
  Why a report on the state of public health in Canada? 7
  The goals of the report 7
  What is public health? 8
  Who is this report about? 8
  What does the report cover? 10
Chapter 2: Setting the Stage for Healthy Life Transitions – A Public Health History 13
  Public health and the lifecourse approach 13
  Lifecourse transitions of youth and young adults 13
  Canada's history of promoting healthy life transitions 15
  Moving forward 21
  Summary 22
Chapter 3: The Health and Well-being of Canadian Youth and Young Adults 23
  Social demographics of the youth and young adult population 23
    Residence 23
    Education, employment and income 24
  The current health of Canada's youth and young adults 29
    Mental health and mental illness 29
    Physical health 38
    Health risk behaviours 47
  Summary 55
Chapter 4: Creating Healthy Transitions 57
  The approach 57
  Creating supportive environments for transition 58
  Developing resilience 67
  Addressing risky behaviours 70
  Enhancing positive mental health and protective factors 71
  Approaches to preventing suicide 78
  Preventing unintentional injury 82

Table of Contents

- Bullying and aggression 87
- Sexual and reproductive health issues 89
- Healthy weights and healthy living 98
- Substance use and abuse 102
- Summary 110

Chapter 5: Moving Forward – Priority Areas for Action 113

- Priority areas for action 113
  - Improving and making better use of population and program evidence 113
  - Increasing education and awareness 115
  - Building and maintaining supportive and caring environments 116
  - Approaching problems from all sides with co-ordinated, multi-pronged, inter-sectoral action 117
- Making progress 117

Appendix A: List of Acronyms 121

Appendix B: Indicators of Our Health and Factors Influencing Our Health 125

Appendix C: Definitions and Data Sources for Indicators 129

References 143

Figures

Figure 2.1 Age-specific fertility rate by select age groups, Canada, 1930 to 2008 19

Figure 3.1 Population distribution by age group, Canada, 2006 23

Figure 3.2 High school dropout rate, academic years 1990/1991 to 2009/2010 25

Figure 3.3 Completion of post-secondary education by select age groups, select OECD countries, 2008 26

Figure 3.4 Occupation by sex, youth and young adults, Canada, 2006 27

Figure 3.5 Unemployment rate by highest level of completed education, youth and young adults, Canada, 1990 to 2009 28

Figure 3.6 Youth and young adults living in low-income households, after tax, Canada, 1976 to 2008 29

Figure 3.7 Very good or excellent self-perceived mental health, by origin, youth and young adults, Canada, 2009 31

Figure 3.8 Mood disorder by age group and sex, youth and young adults, Canada, 2009 33

Figure 3.9 Anxiety disorder by age group and sex, youth and young adults, Canada, 2009 33

Figure 3.10 Indirect forms of bullying in victim students by grade and sex, Canada, 2006 35

Figure 3.11 Direct forms of bullying in victim students by grade and sex, Canada, 2006 36

Figure 3.12 Suicide rate per 100,000 population, by age group and sex, Canada, 2007 37

Figure 3.13 Major causes of death by sex, youth and young adults aged 12 to 29 years, Canada, 2007 39
Figure 3.14 Tuberculosis incidence rate by origin, youth and young adults aged 15 to 29 years, Canada, 2001 to 2009 40
Figure 3.15 Measured BMI category by age group and sex, Canada, 2007–2009 40
Figure 3.16 Percentage of measured overweight and obesity by income and sex, young adults, Canada excluding territories, 2004 42
Figure 3.17 Incidence of select cancers by sex, youth and young adults aged 15 to 29 years, Canada, 2007 43
Figure 3.18 Hospitalizations due to injuries, youth and young adults aged 12 to 29 years, Canada excluding Quebec, 2005/2006 44
Figure 3.19 Rates of chlamydia by select age group and sex, Canada, 2009 46
Figure 3.20 Rates of gonorrhea by select age group and sex, Canada, 2009 46
Figure 3.21 Rates of infectious syphilis by select age group and sex, Canada, 2009 47
Figure 3.22 Percentage of population by age and sex who have had sexual intercourse, youth and young adults aged 15 to 29 years, Canada, 1996–97 and 2009 49
Figure 3.23 Rates of pregnancy and live birth, female youth, Canada, 1975 to 2005 49
Figure 3.24 Percentage of youth and young adult smokers by sex, Canada excluding territories, 1999 and 2009 51
Figure 3.25 Alcohol consumption by smoking status, students Grades 7 to 9 and Grades 10 to 12, Canada excluding territories, 2009 53
Figure 3.26 Illicit drug use by sex, youth and young adults, Canada excluding territories, 2009 54

Tables

Table 3.1 Demographics of Canada's youth and young adult population 24
Table 3.2 Social and economic status of Canada's youth and young adults 25
Table 3.3 Mental health of Canada's youth and young adults 30
Table 3.4 Mental illness of Canada's youth and young adults 32
Table 3.5 Perceived health and mortality of Canada's youth and young adults 38
Table 3.6 Physical health of Canada's youth and young adults 39
Table 3.7 Health behaviours of Canada's youth and young adults 48
Table B.1 Who we are 125
Table B.2 Our health status 126
Table B.3 Factors influencing our health 127
Table C.1 Body mass index for youth aged 12 to 17 years 137
Table C.2 Low income cut offs after tax, Canada, 2009 139

Table of Contents

Textboxes

The role of Canada's Chief Public Health Officer 9
The role of the Public Health Agency of Canada 10
Unite and Ignite Conference 11
Canada's role in the United Nations Convention on the Rights of the Child 21
Creating strong families: the Triple P-Positive Parenting Program and Strengthening Families for the Future 58
Integrated approaches to addressing homelessness 61
Addressing mental health problems and addictions among the homeless: Ottawa's Wabano Centre 62
Longitudinal research on resilience: The Kauai Longitudinal Study 67
Researching resilience – Canada's Resilience Research Centre 68
Researching protective factors and resilience in adolescent girls 69
Mental Health First Aid Canada: The Jack Project example 75
Evergreen: A national framework for child and youth mental health 77
Suicide prevention with community programs 80
Social networks preventing LGBTQ suicide – It Gets Better Project 81
Raising awareness about drinking and driving 84
Learning about risks: the SMARTRISK example 86
The Olweus Bullying Prevention Program 88
Preventing dating violence: Youth Relationships Project 91
Building healthy relationships: The Fourth R 92
The Maternal Child Health Program 95
School Health and Alcohol Harm Reduction Project (SHAHRP) 106
Addressing FASD – Manitoba's STOP FAS Initiative 109
Unite and Ignite Youth Engagement Conference 119

Executive Summary

This is the Chief Public Health Officer's fourth annual report on the state of public health in Canada. It examines the state of health and well-being of Canadian youth (aged 12 to 19 years) and young adults (aged 20 to 29 years). The report considers many health issues affecting this population such as physical and mental health, injury, sexual and reproductive health and substance use and abuse. By discussing these issues and how they are addressed, the report identifies priority areas for action to maintain healthy transitions of young Canadians into adulthood.

Setting the Stage for Healthy Life Transitions

Over time and in part due to investments in public health and improving socio-economic conditions, Canada has set the stage for young Canadians to make a healthy and mature transition into adulthood. However, efforts to promote, improve and enhance healthy life transitions are an ongoing process and optimizing opportunities for good health and well-being must exist throughout the lifecourse. Given the diversity in the sequencing, timing and success of youth transitions into adulthood, this is even more apparent today. Young Canadians represent an increasingly diverse sub-population and the life transition patterns of youth and young adults have changed significantly over the last century. For most youth and young adults, this is still a time of positive life experiences and challenges as they progress and learn and develop into healthy adult roles and responsibilities. However, there are sub-populations of young Canadians that are more vulnerable to particular health issues and may face greater challenges, obstacles or interruptions that can affect their ability to transition into adulthood.

At every stage of life, health is directly or indirectly influenced by key determinants of health such as education and literacy, income and social status, employment and working conditions and social environments. The complex interaction between these key determinants of health can influence health outcomes – both positively and negatively – and, depending on the individual, can result in the individual beginning and progressing through life stages at different times and rates. For this reason, the life stages experienced by youth and young adults continue to be fluid and the boundaries between childhood and adolescence or between adolescence and adulthood vary from person to person. From a public health perspective, consideration of the lifecourse approach and the broader determinants of health can help to examine and evaluate how certain factors or experiences affect health outcomes and the ability for individuals to make healthy transitions from one life stage to the next.

A brief public health history of Canada's experience in setting the stage for healthy life transitions shows that past efforts have positively influenced the health outcomes of youth and young adults. Programs, policies and legislation have been put into place to establish the foundation for optimal health and well-being throughout an individual's life, including adolescence and young adulthood. It also points to some broad challenges that lie ahead. There are areas where Canada, as a society, can make a difference in the current and future health and well-being of our youth and young adults. These include education, employment, sexual and reproductive health, injuries, risk-taking behaviours and healthy living. In order to ensure that all young Canadians are making healthy transitions into adulthood, opportunities to identify and address these challenges and to promote healthy life transitions must exist.

The Health and Well-being of Canadian Youth and Young Adults

The 2006 Census reported that there are 7.5 million youth and young adults in Canada. Of these, 46% were youth between the ages of 12 and 19 years and 54% were young adults between the ages of 20 and 29 years. Together they represent 24% of the total population. This compares to 35 years ago when they made up 33% of the Canadian population. While most youth live with their families, some are living with a spouse or common-law partner, while others are living alone or may be parents themselves. However, more young adults lived with their parents in 2006 than five years earlier – 42% compared to 39% in 2001.

Education is an important determinant of health for all Canadians. In 2009, nine out of ten young adults were high school graduates, and the dropout rate was 8.5%, with more young men more likely to drop out than young women. However, the rate was much higher – 23% – among off-reserve Aboriginal youth. The number of young adults pursuing and completing post-secondary education has increased over time and in 2008 more than half of Canadians aged 25 to 34 years had completed post-secondary studies. In addition to being in school, many youth and young adults were working. In 2008, two-thirds of Canadians aged 15 to 29 years were employed, making up one-quarter of the total employed population in Canada. The majority of youth aged 15 to 19 years held part-time jobs, while most young adults were employed in full-time positions.

Mental health is an important aspect of the overall health and well-being of youth and young adults. Of particular concern for young Canadians are mental health problems and illnesses such as depression, panic disorder, eating disorders, intentional self-harm including suicidal behaviour and aggressive or anti-social behaviour such as bullying. More than three-quarters of young Canadians describe their mental health as "very good" or "excellent," and most report being "satisfied" or "very satisfied" with life. Despite this, 14% of youth and 24% of young adults perceived themselves as having quite a lot of life stress. Young Canadians living in low-income households, among whom Aboriginal, recent immigrant and homeless youth and young adults are over-represented, are more likely to experience stressors such as job strain, relationship problems and financial problems. Along with sexual minority youth and young adults, these sub-populations may also experience discrimination, which can increase levels of stress that can lead to mental health problems. Sexual minority youth and young adults also experience stigmatization and harassment, which can put them at higher risk of mental health issues.

Bullying takes many forms and can have a serious impact on the emotional health of those who are victimized. In 2006, 36% of students in Grades 6 to 10 reported being victims of bullying, 39% reported being bullies and 20% reported being both. The most common forms of bullying are teasing and indirect bullying (e.g. spreading lies about a victim). Other forms include physical and electronic bullying and sexual harassment. Data suggest that young people aged 15 to 24 years are at the highest risk of being victims of dating violence. Sexual minority youth are at a much higher risk of experiencing harassment, victimization and physical or sexual violence, both in school and in the community.

Intentional self-harm is an issue of concern for youth and young adults. This frequently hidden behaviour usually begins and is most common among youth and young adults. Compared to 22% for males, 36% of injury hospitalizations among females were for intentional injuries, including self-harm. Suicide is among the top causes of death in youth and young adults in Canada, second only to unintentional injuries. In 2007, nearly 800 young Canadians committed suicide, 76% of whom were young men. Although current data are not available, historical data and research suggest that the suicide rate among youth and young adults of certain Aboriginal peoples may be much higher than that of the general population. Lesbian, gay, bisexual, transgender or questioning (LGBTQ) youth and young adults are also more likely to commit suicide.

Compared to older populations, youth and young adults experience fewer chronic conditions and lower mortality and most – 68% of youth and 70% of young adults – perceive their health as "very good" or "excellent." Young Canadians are, however, prone to injuries and death due to injuries, many of which are preventable. Overall, injuries and poisonings are the leading cause of death among youth and young adults. They account for a much higher proportion (75%) of deaths among adolescent boys and young men however, than among adolescent girls and young women (56%). Males also account for the majority of injury-related hospitalizations in these age groups (66% among youth, 68% among young adults). Transport incidents are the most common cause of death due to injury, with male drivers involved in more automobile collisions than female drivers. In 2005/2006, more than 35,000 youth and young adults were hospitalized for injuries. Just over two-thirds (70%) of those hospitalizations were due to unintentional injuries, one-third of which were the result of transport incidents.

Canadian youth and young adults are experiencing higher rates of obesity than in the past. Between 1978/1979 and 2007–2009, rates of measured obesity rose from 3% to 11% among youth and from 6% to 15% among young adults. Survey data indicate higher rates among Aboriginal youth and young adults and lower rates among immigrant youth and young adults. Low socio-economic status is a factor in the likelihood of obesity; young people from more affluent families have greater opportunities to be physically active and consume healthier food. Being overweight or obese when young increases the risk of certain chronic health conditions such as type 2 diabetes and cardiovascular diseases in adulthood.

Between 1994 and 2009, the reported rates of sexually transmitted infections (STIs) increased in Canada. Young Canadians under the age of 30 years continue to experience the highest reported rates of chlamydia, gonorrhea and infectious syphilis. Survey data showed higher rates of chlamydia among First Nation adolescent girls and young women, and higher rates of chlamydia and gonorrhea in street-involved youth than among the general population. In 2009, more than one-fifth (22%) of all new positive human immunodeficiency virus (HIV) tests were in young adults aged 20 to 29 years.

Although it is normal for youth and young adults to engage in risk-taking behaviours some partake in riskier behaviours linked to negative health outcomes such as smoking, consuming alcohol, drug use and risky sexual behaviours. In 2009, almost half of all youth aged 15 to 19 years and nine out of ten young adults reported that they had had sexual intercourse at least once in their lives. More than two-thirds of those 15- to 19-year-olds and one-quarter of young adults reported having had more than one sexual partner in the previous year. Sexual minority and street-involved youth reported higher rates of risky sexual behaviours including early first sexual experience, multiple partners and lower rates of condom use.

Tobacco, alcohol and cannabis are the substances most frequently used by youth and young adults, and most Canadians are first exposed to these in adolescence. Although smoking rates have declined over the past decade, young adults have the highest smoking rate of all age groups in Canada – 23% are smokers. In 2009, more than two-thirds of youth aged 15 to 19 years had consumed alcohol in the previous 12 months and nearly half had consumed it at least two to three times a month. Cannabis use has decreased among young Canadians in recent years, yet continues to be the most commonly used illicit drug among youth and young adults with approximately one-quarter reporting using it in 2009. Certain populations are at greater risk of substance use and abuse. Young males are typically more likely to use substances and be heavy users; however, recent survey data suggest that the sex gap may be narrowing. Survey data indicate that alcohol consumption and cannabis use are more prevalent among youth who smoke tobacco than among youth who do not smoke. Street-involved youth, sexual minority youth and Aboriginal youth are all at greater risk of substance abuse.

Creating Healthy Transitions

To create conditions for youth and young adults to transition into healthy adulthood, Canada must continue to address complex and interconnected factors that influence health and well-being. Particular health issues examined in this report include mental health and illness, suicide, injuries, bullying, risky sexual behaviours, healthy weights, and substance use and abuse. Various approaches exist to address these issues including efforts to build resilience and reduce stigma; promote health and prevent and manage risk; target specific populations; educate and increase awareness; and develop healthy public policy and protection legislation. Examples of effective, promising and/or supportive approaches and interventions as well as research demonstrate what can be accomplished in creating healthy transitions for youth and young adults.

Social determinants are closely related to the health outcomes during youth and young adulthood. Also beneficial to health are the supportive environments of family and friends, school, the workplace and communities. For example, a positive living environment (home and family) can mitigate the direct outcomes of social, physical and economic exclusion. On the other hand, young Canadians experiencing abuse or neglect in a home setting may be at risk for adverse outcomes. Some youth and young adults become homeless as a result of abuse and neglect; a mental illness; inadequate income or housing; or lack of employment, parental support or income. Addressing homelessness among youth and young adults is complex; to be most effective, interventions targeting youth should be delivered earlier in life, include the determinants of health, and provide children and youth with residential stability and support. School environments also offer supportive settings to youth, fostering academic, social and life skills. As well, schools provide an opportunity to disseminate health information by raising health issues, suggesting prevention tactics and helping students develop healthy skills. The comprehensive health promoting schools approach entails teaching skills in the classroom, addressing the social and physical environment and connecting with the community. A number of broad population-based programs that have increased access and financial support have also contributed to increasing the number of young Canadians who seek and complete post-secondary education. Canada has had some success with youth and young adult programs that build experience and gain the insight and skills necessary for full-time work.

Resilience is an individual's ability to cope with adversity, face challenges and navigate health and social resources. A range of biological, psychological and social factors influence resilience. It is important for a healthy transition into adulthood, affecting the ability to deal with mental and emotional trauma, develop self-confidence and self-respect, set realistic goals and build supportive relationships. Resilience develops differently in adolescent boys and girls, and interventions to address its promotion should be appropriately tailored.

Mental and emotional health problems experienced in childhood and adolescence can affect young Canadians across the lifecourse, and many mental illnesses manifest in adolescence. As such, it is crucial to address mental disorders and illnesses as early as possible, and programs targeted to youth are more effective in preventing mental health issues, managing illness and promoting positive mental health. Schools can be effective in early identification and education. Early education can increase awareness of mental health illnesses and prevent stigma by exposing children and youth to individuals with mental illnesses before negative attitudes emerge and by promoting empathy and tolerance. Stigma may negatively affect an individual's ability to develop and may act as a barrier to seeking treatment. Youth and young adults may also avoid programs and services they perceive as too adult-oriented or disconnected from their needs and culture. Greater consideration should be given to providing age-appropriate programs and services in a school setting. Overall, the most effective mental health interventions involve implementing sustainable multi-faceted programs that consider the many components of mental health and that target individuals, families and communities in an age-appropriate, gender- and culturally relevant approach. As well, broad initiatives or strategies can also offer co-ordinated integrated approaches that can result in significant improvements in overall mental health.

Suicide is a large but preventable public health problem, with emotional, social and economic impacts. Both the lack of awareness that suicide is a major public health problem and the assumption that it is a population-specific problem hinders the effectiveness of many suicide prevention programs. However, some population-specific issues have been noted. While restricting access to common tools used to assist suicide (e.g. firearms or toxic substances) can be effective, this does not address the underlying causes. Canada can address suicide as part of a broad wellness strategy that also promotes mental health. Among at-risk Aboriginal peoples, suicide prevention involves raising awareness and addressing community factors such as social exclusion and disconnection from traditions and culture, which are often deeply entrenched, possibly spanning generations. Promising practices come from within communities. Early research suggests that social media and online resources can be a tool for suicide prevention, for example, among LGBTQ youth and young adults. However, the dynamic environment, a lack of evaluation, the isolating potential of the medium and the possibility of using social networking to bully at-risk individuals or encourage suicide may challenge the effectiveness of such programs.

The majority of injuries that youth and young adults experience are preventable. In many cases, raising awareness is a common strategy for injury prevention. Workplace safety programs introduced in school create a culture of safety for young people entering the workforce. They provide information about workplace risks and employee rights and responsibilities regarding occupational health and safety. Broad awareness programs have been successful in changing the attitudes of young Canadians towards risky behaviours such as impaired driving. However, still more work is required to ensure the messages reach those who are most at risk. These messages should be expanded beyond roadways to include the use of boats, all-terrain vehicles and snowmobiles. Overall, multi-faceted approaches to injury prevention are most effective when combining enforcement of regulation and policies, control of environmental hazards and education.

Bullying is a problem that influences both current and long-term health and well-being. It occurs in a variety of social settings including school, the workplace and online; no matter the setting, everyone has a role to play in its prevention. Bullying is a relationship problem and is marked by an imbalance of power. Addressing bullying is about promoting healthy relationships and building social skills such as assertiveness, empathy, conflict resolution and other interpersonal skills. As bullying often occurs in schools, approaches are most frequently school-based, though evaluations report mixed results. Whole-school approaches involve the development of anti-bullying policies outlining both staff and student responsibilities. Adult involvement and presence in schools can positively influence outcomes. Addressing workplace bullying involves collaboration between employers and employees to clearly define what constitutes bullying and how protective measures are developed and enforced.

Sexual health is a major part of personal health, healthy living and healthy transitions. Healthy sexuality involves much more than avoiding negative outcomes, such as STIs and unplanned pregnancies. Most Canadians become sexually active during their teens. Because sexual attitudes and behaviours are established early, it is important to provide youth with the knowledge and skills necessary to develop healthy relationships and establish healthy sexual behaviours. School-based interventions are an opportunity to reach a large number of youth. Research indicates that the more children and youth learn about sexual health, the more likely they are to postpone sexual activity and/or engage in safer sexual practices. Nevertheless, for the most part, school-based sexual health education is limited in effectiveness. Barriers to effective school-based sexual health education programs include allotted time or teaching materials; some level of community resistance; and some teachers' reported uneasiness with the topic. Programs should also address the diversity among students to address a range of needs and perspectives. In addressing issues such as teen pregnancy and risky sexual behaviours among street-involved youth, a comprehensive approach is required to address broader health determinants and the root causes of these issues. Addressing teen pregnancy involves both prevention measures and support services to ensure positive health for both young parents and their children, while avoiding the stigmatization of young mothers. Overall, the most effective sexual health interventions are those that are sensitive to a variety of backgrounds, experiences, cultures and sexual orientations and are implemented early on in the lifecourse.

Though overweight and obesity is a growing public health problem across all age groups, it is a critical issue for youth and young adults because of current and future adverse health outcomes. Unhealthy weight is linked to several factors including economic status, education, genetics, social factors, the built environment and culture. Addressing overweight and obesity is about promoting physical activity and healthy eating as well as their underlying socio-cultural and environmental determinants. For example, the built environment plays a role in the healthy lifestyle patterns of young Canadians by supporting active transportation, leisure-time physical activity, walking environments, recreational facilities and accessibility to affordable and nutritious foods. Broad initiatives with recommendations on nutrition and physical activity are one step to addressing unhealthy weights across the general population. Another approach provides increased opportunities and access to foods and programs to at-risk populations (e.g. in rural and remote communities). In addressing eating disorders, early detection is the key to increasing the likelihood of treatment. This is done by training families and teachers to identify behaviours and symptoms of disordered eating and recognizing the role of communities in developing healthy body image. More effort is required to reduce the negative stereotyping of those who are overweight or obese and emphasize that self-worth is not related to physical appearance.

Compared to other age groups, young Canadians are the most likely to engage in substance use and abuse. Substance use and abuse are complex issues, often resulting from the interaction of various influencing factors such as family, peers and school as well as broader factors related to socio-economic environments. A public health approach often involves prevention, treatment and rehabilitation, enforcement, and reducing the harm associated with substance use. Prevention is most effective when initiatives are introduced early in the lifecourse, before substance use occurs. Early interventions provide children with the tools necessary to make healthy life choices and can address risk factors earlier on in life. Youth programs must be relevant to the population and the substances most frequently used, as well as target youth interests, activities and values. The most effective health promotion interventions for alcohol use and abuse are broad population-level interventions such as adhering to a minimum drinking age, restricting alcohol sales to minors, taxing alcohol purchases, lowering legal blood alcohol limits and graduated licensing. Similarly, broad approaches such as regulation of tobacco products play an important role in the reduction of smoking prevalence.

Canada has made great progress in developing proven and promising program and policy interventions to address the current and future health of Canadian youth and young adults. However, the health and well-being of some Canadians is still compromised and gaps exist in knowledge, information and best practices. Existing programs and policies offer a starting point for all Canadians, communities and sectors of society to make a difference.

Moving Forward

Over the past century, through planning and research, Canada has made improvements to the health and quality of life of its population. As a result of these successes, Canadian youth and young adults can expect vibrant and healthy lives. However, there are negative influences on the current and future health of young Canadians. Of particular concern are certain groups who suffer higher rates of adverse health problems than the rest of the population.

It is important that Canada deal with these issues to ensure that vulnerable youth and young adults are able to live healthy and productive lives. Many efforts are already in place to tackle various health issues; some can be replicated, adapted or scaled up, while certain communities may require a unique approach. Evaluation of programs is crucial to establishing effective interventions.

To facilitate the best possible outcomes for youth and young adults, Canada must focus effort in the following key areas:

- improving and making better use of population and program evidence;
- increasing education and awareness;
- building and maintaining supportive and caring environments; and
- approaching problems from all sides with co-ordinated, multi-pronged, inter-sectoral action.

As a society, we can learn, adapt and build on successes to create environments that support the health and well-being of young Canadians. By doing so, we can support youth and young adults through this crucial period of development so they can better deal with adversity and reach their full potential.

CHAPTER 1

Introduction

This report, the Chief Public Health Officer's (CPHO) fourth on the state of public health in Canada, examines the state of health and well-being of Canada's youth and young adults while looking at key transitional periods during the lifecourse. It describes persistent or worsening health issues while looking at the specific challenges and successes of these age groups. The report identifies priority areas for action so that Canada can continue to support the transition of young Canadians into healthy and productive adults.

Why a report on the state of public health in Canada?

Canada's CPHO has a legislated responsibility to report annually to the Minister of Health and to Parliament through a report on the state of public health in Canada.[1] The Public Health Agency of Canada (PHAC) and the position of Canada's CPHO were established in 2004 to help protect and improve the health and safety of all Canadians.[1, 2] In December 2006, the *Public Health Agency of Canada Act* confirmed the Agency as a legal entity and further clarified the roles of the CPHO and the Agency (see the textbox "The role of Canada's Chief Public Health Officer" and the textbox "The role of the Public Health Agency of Canada").[1, 3]

The goals of the report

The goals of the CPHO's annual report are to highlight specific public health issues that the CPHO has determined warrant further discussion and action and to inform Canadians about the factors that contribute to improving health. This report does not represent Government of Canada policy and is not limited to reporting on federal or provincial/territorial activities. As such, it is not meant to be a framework for policy but rather a reflection of the CPHO's perspective, based on evidence, on the state of public health across the country. It examines the factors that have influenced the health and well-being of Canada's youth and young adults; it outlines proven and/or promising programs, activities, interventions and policies that can serve as models to inspire action and collaboration among multiple levels of government, jurisdictions, sectors, communities, organizations and individuals; and it identifies priority areas for action so that Canada can foster optimal conditions for health and development.

CHAPTER 1 Introduction

What is public health?

Public health is about preventing disease and optimizing health. The focus is on promoting and supporting the health of the public, rather than treating the illnesses of individuals. By helping to keep people healthy, the public health system can help to relieve some of the pressures on the hospital and acute health-care system.[4-6]

Public health includes:

- food, water and air quality, including health inspection services;
- promoting health-enhancing opportunities and behaviours (e.g. smoking cessation programs, healthy nutrition, prevention and treatment programs for drug and alcohol use);
- basic sanitation (e.g. sewage treatment);
- disease and injury prevention programs (e.g. vaccinations);
- monitoring, screening, diagnosis and reporting on risks and risk factors (e.g. surveillance of disease to detect outbreaks and identify risk factors for communicable diseases, such as influenza, as they occur in humans); and
- identifying and changing harmful community conditions and promoting safe communities (e.g. impact on health due to the lack of recreational areas, safe housing, education and child care).[5-8]

Public health also includes factors – both inside and outside the health-care system – that affect or determine our health. These include income and socio-economic status, social support networks, education and literacy, early childhood development and healthy workplaces.[9-14] The goal is to ensure everyone enjoys universal and equitable access to the basic conditions that are necessary to achieve health, whether those conditions fall within the public health system or outside of it.

Public health is defined as the organized efforts of society to keep people healthy and prevent injury, illness and premature death. It is the combination of programs, services and policies that protect and promote health.[7]

Who is this report about?

Although this report focuses on the health and well-being of youth aged 12 to 19 years and young adults aged 20 to 29 years, it is relevant to all Canadians. Everyone has a role to play and everyone benefits from the creation of healthy environments. Adolescence and young adulthood is generally a time of good health and well-being; however, it is also a time of significant biological, psychological, economic and social transition. It is also a period during which most individuals establish lifelong attitudes and behaviours, setting the stage for their future health and well-being. Interventions that

Aboriginal is a collective name for the original peoples of North America and their descendants. The *Constitution Act* of 1982 recognizes three groups of Aboriginal peoples – Indians, Inuit and Métis – each having unique heritages, languages, cultural practices and spiritual beliefs.[15, 16] The newer term 'First Nations' is used to describe both Status and non-Status Indians.[15]

Immigrant applies to a person who was born outside of Canada and who has been granted the right to live permanently in Canada. The term could also apply to a person born inside Canada to parents who are foreign nationals or to a person who is Canadian by birth born outside Canada to Canadian parents.[17]

Sexual minorities are a group whose sexual identities, orientations, desires or practices differ from the majority of the surrounding society. It also refers to members of sex groups whose gender identities do not fall into the traditional perceptions of male or female, such as transgender.[18-21] Often used synonymously, this group is frequently referred to as 'LGBTQ,' which stands for lesbian, gay, bisexual, transgender or questioning.[22]

Although the definitions of **street-involved youth** are numerous, the one constant is their precarious living conditions, which include elements of poverty such as inadequate shelter, poor or insufficient diets, little personal safety, and emotional and psychological vulnerability.[23-25]

Introduction

CHAPTER 1

The role of Canada's Chief Public Health Officer

The Chief Public Health Officer (CPHO):

- is the deputy head responsible for the Public Health Agency of Canada (PHAC), reporting to the Minister of Health;
- is the federal government's lead public health professional, providing advice to the Minister of Health and the Government of Canada on health issues;
- manages PHAC's day-to-day activities;
- works with other governments, jurisdictions, agencies, organizations and countries on public health matters;
- speaks to Canadians, health professionals and stakeholders about issues affecting the population's health;
- is required by law to report annually to the Government of Canada on the state of public health in Canada; and
- can report on any public health issue as needed.[3]

In a public health emergency, such as an infectious disease outbreak or natural disaster, the CPHO:

- briefs and advises Canada's Minister of Health and others as appropriate;
- works with other departments, jurisdictions and countries, as well as with experts and elected officials, to deliver information to Canadians;
- directs PHAC staff as they plan and respond to the emergency; and
- co-ordinates with federal government scientists and experts, and with Canada's Provincial and Territorial Chief Medical Officers of Health, to share information and plan outbreak responses.[3]

target youth and young adults can have a lasting impact on health, independence and meaningful and productive employment.

This report refers to 'Canadians' to denote all people who reside within the geographical boundaries of the country. When data exist to support discussion about distinct population groups, the report uses specific terms to provide clarity, for example, 'Aboriginal,' which includes 'First Nations,' 'Inuit' and 'Métis.'[16] Throughout this report the generic terms 'youth' and 'young adult' are used. While there is no consistent definition for a youth or young adult, the terms are based on available data, health issues and public health activities that involve these age groups. For the purpose of this report, 'youth' will refer to adolescent boys and girls aged 12 to 19 years and 'young adult' to young men and women aged 20 to 29 years. When data are not available for these specific age ranges, it will be stated as being different for clarity.

CHAPTER 1

Introduction

What does the report cover?

The following identifies the chapters in this report and summarizes the topics covered within each of them.

Setting the stage for healthy life transitions – A public health history. Chapter 2 introduces the concept of lifecourse and determinants of health as they relate to healthy transitions for youth and young adults. This chapter also explores changes in areas such as public health, education and employment.

The health and well-being of Canadian youth and young adults. Chapter 3 provides a demographic profile of youth and young adults and examines the current physical and mental health status of this population. It looks at socio-economic determinants of health and their relationship with health status and well-being. It also describes risk-taking behaviours, including risky sexual behaviour and substance use and abuse.

Creating healthy transitions. Chapter 4 highlights what can be done to maintain and improve the conditions faced by Canada's youth and young adults. It uses examples of interventions, programs and policies that have been proven and/or are promising in Canada and internationally. This chapter examines what is being done to address injuries, risky sexual practices, mental health problems and substance use and abuse for these age groups.

Moving forward – priority areas for action. Chapter 5 summarizes the findings from preceding chapters, identifies strategies and defines priority areas for action. Based on these priorities, the report proposes recommendations and commitments for a healthy transition into young adulthood.

The role of the Public Health Agency of Canada

The Public Health Agency of Canada's primary goal is to strengthen Canada's capacity to protect and improve the health of Canadians and to help reduce pressures on the health-care system. The role of PHAC is to:

- promote health;
- prevent and control chronic diseases and injuries;
- prevent and control infectious diseases;
- prepare for and respond to public health emergencies;
- Serve as a central point for sharing Canada's expertise with the rest of the world;
- Apply international research and development to Canada's public health programs; and
- Strengthen intergovernmental collaboration on public health and facilitate national approaches to public health policy and planning.

The Agency works in collaboration with various levels of government, health stakeholders and other sectors to promote healthy lifestyle choices and protect Canadians from potential threats to their health.[26, 27]

CHAPTER 1

Introduction

Unite and Ignite Conference

This year, PHAC had the opportunity to participate in the 13th annual "Unite and Ignite" youth engagement conference, a partnership between Youth Centres des Jeunes Canada and the Student Commission of Canada, and led by the Centre of Excellence for Youth Engagement.

The conference brought together approximately 400 young people to discuss important issues facing youth in Canada today. The conference attendees were a diverse group of Canadian youth, including representatives from a variety of cultural heritages and different socio-economic backgrounds from urban and rural Canada.

Themes covered at this year's conference included youth homelessness, community youth engagement, community youth retention and attraction, substance use and abuse, action and prevention of youth suicide, bullying and Aboriginal youth perspectives.

The conference also included a session on this report. A presentation provided background information and included key highlights on youth health, focusing on mental health and mental illness, physical health, and health and risk-taking behaviours. These particular areas were discussed with all participants in small groups and youth provided their input and thoughts on the key topics featured in the 2011 Report.

It was important to engage youth in the development of this report as youth make tremendous contributions to the communities in which they live. Youth engagement is about empowering youth, giving them meaningful participation and involvement in decisions that affect their lives.

Participants gave their recommendations and final thoughts on the last day of the conference. Some key points of interest included discussions on the significant influence parents have on their children and the importance of good parenting skills and supports. Also discussed was that Aboriginal and non-Aboriginal people could gain a greater awareness of each other's culture through respect, understanding and communication. Also identified was the need for "honest," non-judgmental and stigma-free solutions-based education concerning substance use and abuse for youth and parents delivered by someone with first-hand experience.

These recommendations as well as the themes from the conference provided valuable input for the 2011 CPHO Report. The conference confirmed the importance of establishing initial good health and resilience as a healthy transition into adulthood. It is clear that for Canada as a society to move forward, building relationships between youth and adults will be about creating opportunities for communication and respect, and listening to young people's perspectives.[29]

Setting the Stage for Healthy Life Transitions – A Public Health History

CHAPTER 2

Investing in continued good health and well-being, from early childhood into adulthood, is a responsibility shared by many sectors of Canadian society, including federal, provincial/territorial and municipal governments as well as non-governmental and community organizations. Over time and in part due to investments in public health and improving socio-economic conditions, Canada has set the stage for a healthy population. These sectors have also worked to promote optimal childhood development. As a result of these measures, many young Canadians are in good health and making a mature and healthy transition into adulthood.

Through select key milestones, this chapter takes a historical look at some of Canada's many successes and challenges in setting the stage for healthy transitions among youth and young adults. It explores and defines some key public health terms relevant to maintaining good physical and mental health throughout the transitions of youth and young adults. It also highlights policies, developments and difficulties that have influenced the health of youth and young adults and points to some broad challenges that lie ahead.

Public health and the lifecourse approach

The lifecourse is a path that an individual follows from birth to death.[30, 31] This path can change or evolve at any life stage and varies from person to person depending on biological, behavioural, psychological and societal factors that interact to influence health outcomes.[30, 31] Social standards, such as significant life events, cultural norms and social roles, can also mark life stages.[10] These factors interact to influence health outcomes – both positively and negatively – and can result in individuals beginning and progressing through life stages at different times and rates. For this reason, the life stages experienced by youth and young adults continue to be fluid and the boundaries between childhood and adolescence or between adolescence and adulthood vary from person to person.[31-33]

Public health uses the lifecourse approach as a tool to understand the links between time, exposure to a factor or combination of factors, experiences and later health outcomes. The lifecourse approach can help identify and interpret trends in the health outcomes of a population and the links between life stages.[30, 31, 33-36] Using this approach, measures can be put in place to create conditions for optimal population health and well-being.[31, 33, 34]

Lifecourse transitions of youth and young adults

The transition from childhood to adulthood is an important developmental stage. The onset of puberty (biological and psychological change and development) often marks the beginning of this period.[10, 32] It is also a time of changing social roles and relationships as individuals begin to move away from relying on the judgment and authority of adult mentors (e.g. parents, teachers) to that of peers. Young Canadians begin to foster greater autonomy and independence and develop a stronger sense of who they are and who they want to be.[32, 37] As well, the transition from childhood to adulthood is a time of changing experiences and expectations as youth and young adults progress and develop through various life stages (e.g. completing school, obtaining full-time employment).

CHAPTER 2

Setting the Stage for Healthy Life Transitions – A Public Health History

Today, there is increasing diversity in the sequencing, timing and success of youth transitions into adulthood.[38, 39] Life transitions of youth and young adults are more fluid and less clearly defined, thus shifting the life stages and patterns most typically associated with these two age groups.[31-33] Compared with previous generations, many young Canadians today are taking longer to make key life transitions and are spending more time at each life stage, ultimately delaying their pathway into adulthood. Current life transition patterns are marked by later completion of education, entrance into the full-time labour force, home leaving, marriage or co-habitation and childbearing.[37, 38, 40] These changes are consistent with the shifts taking place in most industrialized countries.[40] Today, youth and young adults have more choices and opportunities to grow, develop, learn and transition into adult roles within society. As a result, these changes have modified the life stages, opportunities and risks encountered by youth and young adults in developing and progressing into adulthood.[38, 40]

However, this is not the case for all young Canadians. For vulnerable youth and young adults who face additional challenges and have fewer supports to rely on, this transitional period can be more complex (see the section "Health inequalities and vulnerable youth and young adults").[39]

Factors that influence health

At every stage of life, health is directly or indirectly influenced by key determinants of health.[10, 41-44] In turn, each of these determinants are important for optimal health and well-being. Individual behaviours also influence health outcomes. Although behaviours are based on individual choices, the determinants of health can also influence the choices individuals have available to them. Further, the complex interaction among these determinants can influence the health outcomes, development and life transitions of individuals and communities.[41, 45]

Within the broader determinants of health, socio-economic factors such as income, education or employment, often referred to as the "social determinants of health" can cause or influence the health outcomes of individuals and communities.[11, 45] These factors relate to an individual's place in society – the circumstances in which people are born, live, work, play, interact and age.[46] Often these factors are influenced by wealth, status and resources that, in turn, also influence policies and choices leading to differences in the health status experienced by individuals and populations.[46]

Further, the social environment (families, schools, peers, workplaces and communities) and behaviours can influence health outcomes and life transitions of youth and young adults.[10] Positive experiences and social connections during youth and young adulthood are related to securing and maintaining overall health and well-being.[10, 47] For example, being involved in community and extracurricular activities in a variety of growth-promoting experiences has been linked to positive social development, academic success, school attachment, a sense of well-being and reduced involvement in risky behaviours.[48] Further, having close friendships with peers is associated with positive emotional health and social adjustment and may influence the degree to which young people become involved in health promoting or health-compromising behaviours.[45]

Determinants of health

- income and social status
- social support networks (e.g. family, peers)
- education and literacy
- employment and working conditions
- social environments (e.g. community, workplace)
- physical environments (e.g. housing)
- personal health practices and coping skills
- healthy child development
- biology and genetic endowment (e.g. sex)
- health services
- gender
- culture (e.g. Aboriginal status, racial and cultural identities)[41]

Health inequalities and vulnerable youth and young adults

Good health is not shared equally by all Canadians. Some Canadians face health risks and considerable social and economic challenges and, as a result, can have poorer health outcomes.[49-51] In general, health status follows a gradient where people in less advantageous socio-economic circumstances are not as healthy as those at each subsequently higher socio-economic level.[49, 51, 52] In other words, those with the lowest incomes and education levels, who live in inadequate housing, work in poorer conditions, have limited access to health care and lack early childhood support and/or social support are more likely to develop poorer physical and mental health outcomes than those living in better circumstances.[41, 42, 49, 51] They are also less likely to participate in community and extracurricular activities which have been found to be health promoting.[53, 54] These differences in health status are often referred to as health inequalities.

Health inequalities are differences in health status experienced by various individuals or groups in society. These can be the result of genetic and biological factors, choices made or by chance, but often they are due to unequal access to key factors that influence health, for example, income, education, employment and social support.[49, 55]

The effect of social and economic status and/or differential access to health care, education, employment and housing can contribute to inequalities in health outcomes at every stage of life, including for youth and young adults.[41, 56] Differences in health status resulting from poorer socio-economic circumstances may affect the lives of young people, limit or modify their choices, opportunities and challenges, and ultimately influence their ability to make successful and healthy life transitions into adulthood.[56] Further, social exclusion that can result from discrimination can also lead to health inequalities. Poorer socio-economic circumstances and social exclusion can entrench feelings of helplessness, hopelessness, alienation and mistrust among vulnerable populations and can increase the likelihood of adopting unhealthy or risky behaviours.[57-59]

Young Canadians constitute an increasingly diverse sub-population marked by differences in income, living conditions, geographical location, level of education, employment, ability, age, sex, gender, sexual orientation, Aboriginal status and racial and cultural identities. These differences expose young Canadians to various stressors and risks that influence vulnerability to adverse health outcomes.[44] By addressing inequalities early in the lifecourse, it is possible to help young Canadians achieve optimal health during their developmental years, diminish and/or reverse unhealthy living practices, mitigate any risky behaviours and ease the transition from one life stage to the next, ultimately promoting positive lifelong health.[10, 60] Given that health behaviours are influenced by an individual's socio-economic environment, understanding the differences in health status is essential to identifying and implementing solutions for vulnerable populations.

Canada's history of promoting healthy life transitions

Examining Canada's many successes and challenges in establishing healthy life transitions for youth and young adults is a complex undertaking. It is important to consider all of the broad public health improvements and social investments over the last 100 years for the population as a whole as well as those specific to children, as these have had the greatest cumulative effect on health outcomes across the lifecourse.[30] Events, experiences and changes that affect health are important throughout an individual's life, but childhood is the most critical period in which to establish the foundations for good health and well-being. As explored in *The CPHO's Report on the State of Public Health in Canada, 2009*, establishing good health in the earliest stages of the lifecourse can make it easier to maintain a positive health trajectory. Canada has made substantial progress in supporting healthy starts for children and, as a result, in improving and maintaining healthy transitions for youth and young adults.[30] Canada has also made considerable progress in directly improving the health and well-being of youth and young adults.[30]

CHAPTER 2

Setting the Stage for Healthy Life Transitions – A Public Health History

This is not a complete historical account of all public health advancements. For a more detailed history of public health in Canada, see *The CPHO's Report on the State of Public Health in Canada, 2008, 2009* and *2010.*[30, 36, 49]

1900–1950

Rising concern for the health and well-being of children and youth in Canada goes back to the early 1900s, with the growth of public health education, improvements in hygiene and sanitation, immunizations and implementation of medical inspections within the school system.[30, 36, 49, 61-63] During this time, many diseases and/or injuries in youth and young adults were also associated with unsafe workplaces or hazardous occupations. Measures were introduced to help regulate the conditions and standards of employment and to protect the health and safety of workers.[64] Labour laws concerning the employment of children and youth were established to both protect young Canadians from harsh working conditions and to encourage them to pursue an education.[65, 66] In addition, by 1910, many provinces across the country had implemented compulsory school attendance.[67]

During the First World War, the threat of sexually transmitted infections (STIs) – mainly syphilis and gonorrhea – were a major public health concern since diagnosis and treatment were often insufficient and ineffective. As a result, a number of public health education initiatives were introduced to help mitigate this issue, including the establishment of the Canadian National Committee for the Control of Venereal Diseases in 1919. Proposals to educate young people in schools and universities on sexual health, including STIs emerged across North America, however at that time, there was much debate about whether sexual health education should be introduced into school curriculums.[61]

Fuelled by the devastation of the First World War and the Great Depression, priorities for public health in the 1920s and 1930s were driven by demands for improvements in child and maternal health; sanitary conditions at home and in schools; food safety (e.g. pasteurization of milk); managing infectious disease outbreaks (e.g. tuberculosis, typhoid, diphtheria, polio); and continued efforts to implement broad sexual health education and prevention programs across the country. As Canada's social and economic foundations continued to change and evolve, with industrialization and the transition from a rural to an urban society, the health of children and youth living in rural communities gained greater attention. Rural communities had limited public health services, schools received fewer medical inspections, and home sanitation and plumbing were usually poor or non-existent. Although the public health challenges were evident, the Great Depression had slowed industrialization and modernization, which in turn also hindered the provision of public health services and infrastructure. Many of these health concerns persisted and/or worsened into the next decade.[61]

During and after the Second World War, many Canadians struggled to access and afford good quality food.[61] Canada's first national food guide, then called the *Official Food Rules*, was introduced in 1942 to help prevent nutritional deficiencies during wartime food rationing and improve the health of Canadians.[68] Concern over the production, processing and distribution of food products, especially of packaged, ready-to-eat food was growing. Public schools were once again used to educate youth, this time on food preparation and sanitation. However, assessing the safety of food grew increasingly complex as new chemical, biological and technological tools were being used to preserve the quality and shelf life of food. Along with nutrition initiatives, a broad national health education and physical fitness initiative was launched to promote healthy living among children and youth. In 1943, the government implemented the *National Physical Fitness Act*, established the National Council on Physical Fitness and provided grants to the provinces for local health education initiatives.[61]

1950–Present

Following the Second World War, Canada experienced unprecedented growth in both the labour force and the rate of industrialization in Canada. New technologies, coupled with a decline in unskilled jobs, created increased demand for skilled workers.[40, 61, 69] Workplace restructuring required workers to be better trained or else multi-skilled and flexible, to support economic growth and greater productivity.[70] For many young Canadians, more education and training was necessary after high school to acquire the knowledge, experience and skills needed in the employment market and to secure a job.[70] However, as time progressed, many youth and young adults struggled to afford post-secondary education and find employment upon graduation.[37]

Education was, and continues to be, an expensive investment in a young adult's future.[37] As demand for and cost of post-secondary education grew, federal and provincial/territorial governments took a more prominent role in helping Canadians pursue and finance post-secondary studies. The *Canada Student Loans Program* was established in 1964 to help post-secondary students who demonstrated financial need pay for their education.[71] Financial support, in the form of loans, scholarships and bursaries, was also made available through provincial/territorial governments, private-sector contributions and financial institutions nation-wide.

Upon completion of school, many graduates had difficulty finding jobs, in part due to their lack of sufficient work experience. Young Canadians faced a common dilemma: not getting hired due to a lack of work-related experience, which in turn resulted in not gaining the necessary work experience.[72] This situation was exacerbated during times of economic crisis, when there was more competition for jobs.[73] Job creation initiatives, such as the *Service Canada Centres for Youth*, were introduced in 1968 to assist students and recent graduates in developing skills and work experience.[74]

As more young Canadians entered the workforce – either part-time to help supplement the cost of post-secondary education while in school or full-time upon graduation – there was greater need for measures to protect young workers from injuries in the workplace. Each province and territory enacted laws and regulations prohibiting or restricting the employment of children and youth from work likely to be harmful to their life, health, education, and physical development. Provincial/territorial legislation also provided for mandatory school attendance (until at least 16 years of age), restricted hours of work and set minimum wages for employment.[75, 76] In addition, federal workplace health and safety legislation such as the *Canada Labour Code, Canada Occupation Health and Safety Regulations, Canada Labour Standards Regulations* and the *Workplace Hazardous Materials Information System* (WHMIS) were established. Organizations, such as the Canadian Centre for Occupational Health and Safety (CCOHS), were created to promote health and safety in workplaces across Canada through education and training.[77-82] More recently, initiatives (e.g. *Young Workers Zone*) have been developed to educate young workers on safety and to prevent injuries in the workplace.[77, 83]

In the 1960s, there were mounting concerns about safety on the roads due to the increasing incidence of motor vehicle collisions.[61, 84] Throughout the 1970s and 1980s, a wide range of road safety measures were introduced, such as mandatory seat-belt use, safe driving campaigns and traffic law enforcement initiatives. This contributed to a reduction in road traffic fatalities in the following decades.[85, 86] Many provinces such as British Columbia, Alberta, Ontario and Nova Scotia introduced a form of graduated licensing to allow new drivers to gradually learn and establish safe driving practices. Provincial/territorial governments also set a legal driving age to enhance road safety for all road-users, with most restricting the minimum driving age to 16 years.[87-91] New drivers were encouraged to take accredited driver training programs that taught road safety and good driving skills. More recently, provincial/territorial governments such as British Columbia and Ontario have developed a series of improvements and stronger standards for beginner driver courses, driving schools and driving instructors.[92-95]

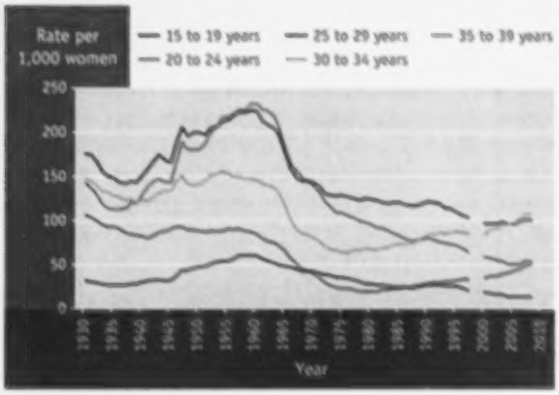
Campaigns against drinking and driving also gained increased momentum and attention during this period. Social marketing techniques and awareness campaigns, for example, Ontario's Reduce Impaired Driving Everywhere (RIDE) and arrive alive DRIVE SOBER programs, were launched to encourage Canadians to obey road safety regulations and driving laws and to change perceptions on the acceptability of drinking and driving.[61, 96, 97] North American organizations such as Mothers Against Drunk Driving (MADD) and Students Against Destructive Decisions (SADD) were formed to create networks of leaders, educators and peers dedicated to delivering awareness-raising activities and prevention.[98, 99] Despite these efforts, impaired driving continues to be an issue among young drivers.[100, 101] More recently, some provincial/territorial governments have implemented traffic regulations against the use of hand-held mobile devices while driving to reduce the number of injuries and fatalities as a result of driving distracted.[102]

In the following decades, a number of public health challenges emerged and/or grew. By the early 1980s, human immunodeficiency virus (HIV), which causes acquired immunodeficiency syndrome (AIDS), first appeared in Canada among the gay male population and those infected through contaminated blood. In response to the health crisis, measures were created to improve the safety of the blood supply.[103] While a number of small, community-based organizations were founded, such as AIDS Vancouver and the AIDS Committee of Toronto, initial public health responses to AIDS were fragmented, unco-ordinated and ineffective. There was also a reluctance to act due to the social tensions and attitudes around homosexuality, condom distribution in schools and sexual health education.[61, 103] As the threat of HIV and AIDS grew, governments at all levels, health-care professionals, researchers, non-governmental organizations and community volunteers became involved.[103, 104] Globally, an AIDS pandemic led to public information and awareness campaigns and the development of medical treatments that helped to manage the health-related conditions of people with HIV and AIDS.[61, 103-105] However, it had also become evident that the spread of HIV – and its impact on individuals – was influenced by social, economic and political factors as well as biological conditions.[103] By the early 1990s, the federal government had recognized the need for a more solid, strategic and interconnected approach to HIV and AIDS and launched the *National AIDS Strategy*, which was replaced by the *Canadian Strategy on HIV/AIDS* in 1998.[106]

Since the Second World War, the rates of teen births and teen pregnancies slowly declined.[107, 108] The decline in teen births and teen pregnancy can be attributed to several factors including an increase in the availability and use of contraceptives, legalized abortion, changing social values and an increase in awareness of risks associated with unprotected sex.[61, 109-112] Departments of health across the country established, conducted and supported sexual and reproductive health programs as an integral part of comprehensive health care. These programs provided information, counselling, education and services to all individuals, including young men and women.[109] Advocacy organizations, such as Planned Parenthood Federation of Canada (now known as the Canadian Federation for Sexual Health), were founded to advance education and awareness on sexual and reproductive health issues.[113]

In addition, with social investments in education and employment, it became more common for young adults to postpone marriage and starting a family.[38] Young men and women pursued higher levels of education to obtain knowledge and skills that would secure employment and build financial stability.[32, 37, 38, 70] Enrolment by women in post-secondary institutions has been increasing steadily since the 1960s.[114] In fact, in more recent decades, women have been participating in post-secondary education at rates higher than men, and their increased participation in education and employment has shifted the age pattern of childbearing and, overall, delayed first childbirth.[37, 38, 114] There have been significant changes in the age-specific fertility rates in Canada over the past 50 years (see Figure 2.1).[108, 115, 116] Since the early 1960s, the fertility rate of young women has been decreasing. This has shifted the age of first childbirth for women into their thirties.[108, 115, 116]

Figure 2.1 Age-specific fertility rate by select age groups, Canada, 1930 to 2008[108, 115, 116]



Note: Data for Yukon and Northwest Territories is not available prior to 1950; Newfoundland excluded 1930 to 1960; No data available for 1998 and 1999.

Source: Public Health Agency of Canada using data from Canadian Vital Statistics, Birth Database, Statistics Canada.

Participation rates in post-secondary education have increased significantly as programs from public and private institutions, offering a selection of credentials (e.g. degrees, diplomas, and certificates), have become more available.[114, 117, 118] Over 163 recognized public and private universities (including theological schools) and over 183 recognized public colleges and institutes currently operate in Canada.[119] The Canada Millennium Scholarship Foundation was launched in 1998 with a 10-year mandate to increase access to post-secondary education by helping to offset the financial costs of such education, especially among students facing economic and social barriers.[120, 121] To replace existing grant programs, the Government of Canada introduced the new *Canada Student Grants Program* (2009), made available to support students from low- or middle-income families, with dependents or with permanent disabilities and to provide financial grants to youth awarded based on need and academic achievement.[120, 122]

Rates of post-secondary education enrolment and completion by Aboriginal youth have been steadily increasing over the last two decades. Nevertheless, Aboriginal youth are still under-represented in post-secondary institutions across Canada.[123] Historical barriers to education, due to broader socio-economic factors, cultural sensitivities and environmental barriers, including the lack of schools in rural and remote areas as well as the impact of the Residential School System, have negatively influenced the educational attainment of Aboriginal youth. This has had a cumulative reinforcing effect over generations.[123] Founded in 1985 in response to the need for support and engagement for Aboriginal youth, the National Aboriginal Achievement Foundation, in partnership with Aboriginal peoples and private and public stakeholders, was developed to deliver programs that encourage youth to stay in school and to help students with career planning, developing connections with industry sectors and employment opportunities. The non-profit organization has also awarded numerous scholarships and bursaries since 1985. These have provided the tools necessary for Aboriginal peoples, in particular youth, to further their education and career goals.[124] In 1997, the *Youth Employment Strategy* (YES), encompassing programs such as *Young Canada Works* and the *First Nations and Inuit Summer Work Experience Program*, was developed to help Canadians aged 15 to 30 years obtain career information, develop skills, find good jobs and stay employed.[72, 125, 126]

As years passed, more researchers became interested in studying physical activity habits, food consumption patterns and the prevalence of nutritional deficiencies and diseases among Canadians.[61] One of the driving factors was the recognition that the physical activity and fitness levels of young Canadians had decreased.[45, 127] In response, a number of services and programs were initiated to encourage and promote lifelong healthy living practices and behaviours (e.g. making healthy food choices, staying physically active and maintaining a healthy weight). *Canada's Physical Activity Guide for Youth* (2002) was created to encourage youth to adopt healthier lifestyles by explaining the importance of regular physical activity and suggesting ways of taking the necessary steps to become more active.[128] More recently, the Canadian Society for Exercise Physiology (CSEP) developed new physical activity guidelines, including the *Canadian Sedentary Behaviour Guidelines for Youth* (2010).[129-132] The Government also introduced the *Children's Fitness Tax Credit* (2007) to support the participation of children under 16 years of age in fitness programs while also promoting active living and tackling risk factors for childhood obesity.[133, 134] Long-established organizations such as the YMCA and YWCA, Boys & Girls Clubs of Canada and ParticipACTION, along with Sport Canada, have continued to promote healthy, active living in young Canadians through participation in recreational and organized sports and activities within communities.[135-138] In addition, the Government of Canada launched a revised Food Guide in 2007, *Eating Well with Canada's Food Guide*, as well as a version tailored for First Nations, Inuit and Métis people.[139]

Promoting healthy behaviours and lifestyles in young Canadians also required investments in recreational activities and organized sports, including better standards of care and safety. Sport and recreation injuries were a health concern, particularly for school-aged youth and young adults. Interventions and public health initiatives to prevent and/or reduce risk of injuries in sports and recreational activities (e.g. organized sport regulations, recreational safety rules and guidelines and the use of protective equipment) emerged over the past several decades.[140-143] Safety legislation was introduced in many provinces to help protect youth; for example, bicycle helmet laws for bicycle-related head injuries and death.[144-147] Organizations such as the Canadian Red Cross Society (Red Cross Water Safety Services), SMARTRISK, Safe Kids Canada and Think First Canada were founded to promote the physical activity and safety of youth and young adults through research, education and advocacy.[148-151]

Continued investments in healthy living practices and behaviours also included initiatives to reduce the prevalence of smoking in Canada, especially among youth and young adults. Canada's success in reducing the rate of smoking was due in part to combined investments at all levels of government. As well, attitudes towards and social acceptance of smoking changed as evidence emerged that tobacco use was an addiction that harmed smokers and those exposed to second-hand smoke.[61] This shift in public acceptance and attitude initiated a response from the Government of Canada to implement a plan of action to address the impact of tobacco use on an individual's health and to help curb start-up rates of smoking among Canadians, particularly youth and young adults.[152, 153] In 1997, the *Tobacco Act* was enacted to regulate the manufacture, sale, labelling and promotion of tobacco products.[154] The *Act* provided standards for the promotion of tobacco and set rules for enforcing the tobacco laws. Tobacco companies could no longer target young people in their advertisements or sponsor any youth activities or events.[155] Since the development of the Federal Tobacco Control Strategy (2001), a variety of tobacco control legislation and strategies have been put in place, such as education, taxation laws, the introduction of smoking by-laws, regulations that included retail display bans and a minimum age of purchase. To further encourage healthy living practices, a number of initiatives were created to support smoking cessation.[153, 156-159]

Recently, there has been an increase in reported STIs in the Canadian population, particularly among Canadians under 30 years of age and vulnerable populations (e.g. Aboriginal youth and street-involved youth).[23, 160-165] Chlamydia, gonorrhea and syphilis are an increasing public health concern in Canada. Human papillomavirus (HPV) is a common STI that has been linked to certain types of cancers, skin lesions and other negative health outcomes.[166] Publicly funded immunization strategies to prevent infection for four common types of HPV for females aged 9 to 26 years old are now in place across Canada.[166, 167] In 2006, the *Canadian Guidelines on Sexually Transmitted Infections* was updated as a resource for clinical and public health professionals, policy makers and educators for the prevention, diagnosis, treatment and management of STIs.[168] This was followed in 2008 by the *Canadian Guidelines for Sexual Health Education* to offer direction in the development and improvement of sexual health education policies, programs and curricula that address the diverse needs of Canadians and ensure that sexual health education is made available to all Canadians. Both of these documents are continuously under review to reflect current conditions and risks.[22] In addition, initiatives such as the *Federal Initiative to Address HIV/AIDS* in Canada, including *Leading Together – Canada takes action on HIV/AIDS* (2005–2010), and the *Canadian HIV Vaccine Initiative* have been created to provide safe and effective diagnosis, care, treatment and support for all Canadians with HIV and AIDS, to prevent the spread of HIV and to contribute to global efforts to fight the pandemic and find a cure.[104, 105, 169-171]

Canada's role in the United Nations Convention on the Rights of the Child

In 1991, Canada ratified the *United Nations Convention on the Rights of the Child* and made a commitment to promote and protect the health and well-being of all Canadians under 18 years of age. Based on the principle of the "best interests of the child," the *Convention* protects children and youth's rights by setting principles and standards in health care, education and legal, civil and social services, ultimately laying the foundation to ensure basic needs and the right to survival, life and healthy development are supported and sustained.[172, 173]

Since 1991, Canada has taken a range of actions to support, strengthen and monitor the principles of the *Convention*, and has implemented legislation, programs and policies that have resulted in positive health outcomes for young Canadians.[75, 173-175] Regarding health in particular, Canada has developed a set of common services for children and youth and their families to fulfil the provisional rights set forth in the *Convention*, including Article 24 – the right to health care. These rights place an obligation on the State to take appropriate measures to ensure that children have equal provision of and access to necessary health care, and to develop preventive health-care services and support for parental child-rearing activities.[75, 172, 174, 175]

Moving forward

In the 21st century, attention to issues concerning youth and young adults has continued to gain momentum. Efforts have been made to encourage and promote healthy life transitions and to advocate for public health issues relevant to youth and young adults in the areas of healthy living, sexual and reproductive health, injuries and supportive environments as well as social initiatives in education and employment.

Establishing initial good health during youth and young adulthood can help reinforce and maintain the importance of healthy living throughout life.[30, 31, 36] Canada continues to focus on building and supporting positive early life experiences and investing in initiatives to foster healthy transitions for young Canadians. Notably, underlying the advancement of public health initiatives for children and youth in Canada is the *United Nations Convention on the Rights of the Child* (see the textbox "Canada's role in the *United Nations Convention on the Rights of the Child*").[172]

While Canada has made great strides in investing in public health initiatives to improve and enhance the health of young Canadians, considerable challenges remain. The continued prevalence of unhealthy lifestyles and behaviours (e.g. poor nutrition, lack of physical activity, smoking) places the health and well-being of young Canadians at risk – not only in their youth but also into adulthood and old age. Adopting healthy lifestyles and behaviours is a lifelong practice that can help to reduce the risk of chronic diseases and poorer health later in life. One of the challenges in moving forward will be for Canadians to find ways to live healthier lives by staying socially connected, increasing their levels of physical activity, eating in a healthy balanced way and taking steps to minimize their risk of injury.

Despite Canada's success in reducing the rate of smoking, challenges remain. Adolescence was – and still is – a period when many young Canadians experiment with smoking.[176, 177] Canada needs to continue its efforts to educate young Canadians about the associated impact on health of smoking in an effort to curb start-up rates and reduce tobacco use. In addition, sexual attitudes and behaviours are established during the transitional years. Continued efforts to raise awareness and educate young men and women on sexual and reproductive health are needed so that young Canadians can make healthy choices, protect themselves and avoid risky sexual behaviours that may predispose them to an unplanned pregnancy and STIs, including HIV and AIDS.[178] Also, while the specific health concerns of sexual minorities are recognized in Canada, more work needs to be done to provide appropriate programs and services.

Continuing to invest in and create initiatives that provide more opportunities for education and training, career planning, skills development and employment can help to support, improve and enhance the healthy transitions of young Canadians. Education is one of the biggest social investments that can be made for youth and young adults as well as an important and valuable stage in the healthy transitions of young Canadians. Young Canadians spend a substantial portion of their lives in school settings and their experiences strongly influence their social and emotional health and development. Positive school experiences, learning and development can help to secure and maintain health and well-being throughout the lifecourse.[47] As well, education can also influence the health outcomes of young adults, including their financial future and opportunities for employment, inclusion and active participation within society.[37]

Providing positive and nurturing support to young Canadians as they transition into adulthood is essential to their development and securing good physical and mental health. Recognition and consideration of the social environments and social support networks that can influence the health of youth and young adults is important. Today, many social networks outside of the family influence young Canadians, for example, peers, school, employment and social media. As these networks play a greater role in the lives of young Canadians, it will be important to keep up-to-date on the changes and ways in which they may shape the behaviours of youth and shift the focus to how they can be used to promote and encourage healthy behaviours among young Canadians.

Young Canadians today represent an increasingly diverse sub-population and transition patterns from childhood into adulthood are not homogenous. Certain sub-populations may be more vulnerable to particular health issues and may face greater challenges, obstacles or interruptions that can affect their ability to transition into adulthood. Looking forward, Canada will need to consider ways to promote the healthy transitions of all young men and women. This will require an examination of the health status of youth and young adults within the context of the broader determinants of health and their influence on health outcomes, development and life transitions. All Canadians must have opportunities at all stages of their life to have, maintain and enhance good physical and mental health.

Summary

While the lifecourse patterns of young Canadians have changed over the last century, the majority of youth and young adults are healthy and transition smoothly into adult roles and responsibilities. Canada has made significant progress in improving the health outcomes of youth and young adults as a result of the many initiatives that promote good health and well-being. Regardless of the many successes, challenges remain and will continue to emerge, particularly for vulnerable youth and young adults. Chapter 3 explores the current health status of Canada's youth and young adults, including socio-economic status, physical and mental health, and health behaviours.

CHAPTER 3

The Health and Well-being of Canadian Youth and Young Adults

This chapter presents a demographic profile of youth and young adults, and looks at the current physical and mental health status of this population. It provides details of health risk behaviours, including risky sexual behaviours and substance use and abuse. It also looks at socio-economic determinants of health and their relationship with health status and well-being.

The health status of youth aged 12 to 19 years often differs from that of young adults aged 20 to 29 years. Similarly, the health status of young men often differs from that of young women. For these reasons, when relevant and when data are available, this report compares both sexes and age groups.

Social demographics of the youth and young adult population

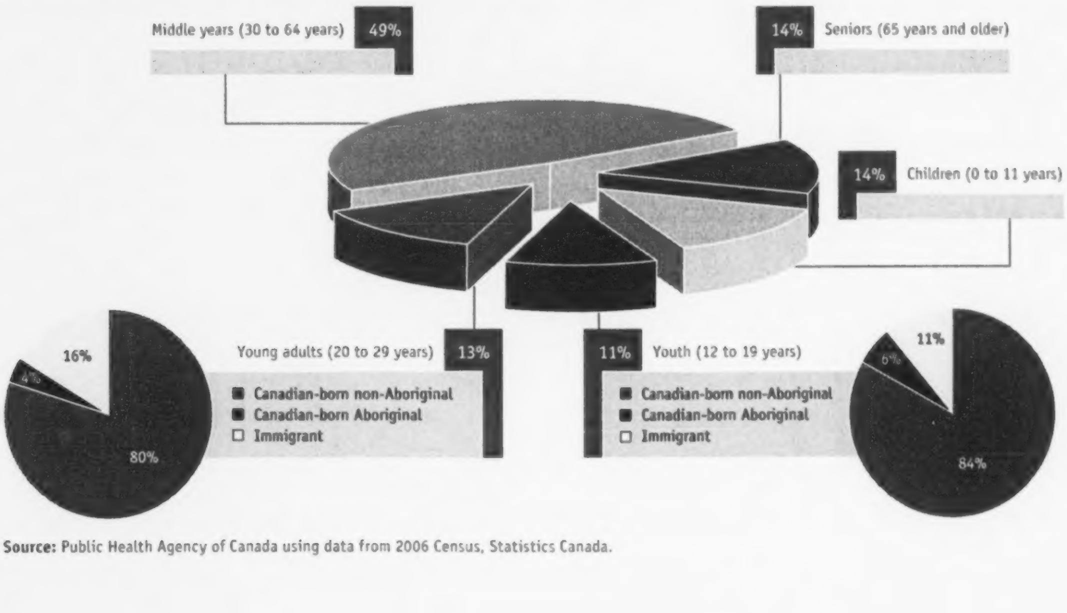
Over the past 35 years, the proportion of the Canadian population aged 12 to 29 years has decreased. According to the 2006 Census, of the entire population of 31.6 million, 7.5 million Canadians (24%) were between the ages of 12 and 29 years, down from 33% in 1971.[179, 180] Of those 7.5 million, 46% were youth and 54% were young adults (see Table 3.1).[180] Of the youth and young adults living in Canada, 13% were immigrants (11% of all youth and 16% of all young adults) and 5% Aboriginal peoples (6% of all youth and 4% of all young adults) (see Figure 3.1).[181]

The proportion of youth and young adults within the Aboriginal population in 2006 was much higher, with almost one-third (31%) between the ages of 12 and 29 years compared to 23% in the non-Aboriginal population.[181, 182] Within the Inuit population, 40% were youth and young adults between the ages of 10 and 29 years in 2006 compared to only 26% of the non-Aboriginal population.[183]

Residence

In 2006, the large majority (93%) of Canadian youth aged 15 to 19 years lived with their families.[184] Of these, more than three-quarters (77%) lived with married or common-law parents, while the remainder (23%) lived in lone-parent households, headed mostly (78%) by women.[185]

Figure 3.1 Population distribution by age group, Canada, 2006[180, 181]



Source: Public Health Agency of Canada using data from 2006 Census, Statistics Canada.

Table 3.1 Demographics of Canada's youth and young adult population

Demographics	
Population aged 12 to 19 years, 2006 (thousand population)	
Population	3,410.1
Aboriginal	193.6
First Nations (single response)	118.5
Inuit (single response)	9.6
Métis (single response)	60.9
Immigrant	360.2
Urban	2,658.9
Population aged 20 to 29 years, 2006 (thousand population)	
Population	4,066.0
Aboriginal	175.2
First Nations (single response)	101.5
Inuit (single response)	8.2
Métis (single response)	60.6
Immigrant	636.1
Urban	3,432.0

Note: More detailed information can be found in Appendix C: Definitions and Data Sources for Indicators.

Source: Statistics Canada.

The remaining 7% were living independently, either on their own (4%), married or in a common-law relationship (2%) or as lone parents (1%).[184]

Many young adults undergo a change in family status during this period in their lives. They move out of their parents' homes and create households of their own. In 2006, more than one-third of young adults were married (15%), living with a common-law partner (18%) or were lone parents (3%).[184] An additional 22% were living alone or with other non-relations.[184] However, the number of young adults that live in their parental home appears to be on the rise, from 39% in 2001 to 42% in 2006.[184, 186]

In 2006, 78% of all youth lived in urban areas – a slight increase from 75% ten years earlier.[181, 187] As Canadian youth transition into young adults, many move to urban settings for post-secondary education and employment opportunities.[188] In 2006, 85% of all young adults were living in urban settings.[181] For some populations, the urban/rural distribution is quite different. Almost all immigrant youth (96%) and young adults (97%) live in urban areas, while far fewer Aboriginal youth (53%) and young adults (61%) do.[181]

Education, employment and income

As discussed in Chapter 2, education and income have both been cited as key determinants of health across the lifecourse.[11, 41, 189] Indicators of these determinants for youth and young adults are shown in Table 3.2. The education levels of both parents/guardians in the household and the youth and young adults themselves can impact health outcomes. Most youth are in school and, although they may have some personal income, the income levels of their parents or other adult wage earners in the household are the main economic determinant of their health. Personal income levels increase for young adults, with the largest shift taking place when students transition to full-time employment. Income levels associated with full-time employment are largely determined by level of education and sex.[190, 191]

Education

In 2009, nine out of ten of Canada's young adult population had at least a high school education.[192] In addition, the high school dropout rate, defined as 20- to 24-year-olds without a high school diploma and not in school, decreased from 16.6% in the 1990/1991 school year to 8.5% in the 2009/2010 school year.[193] Young men however, had consistently higher dropout rates than young women (see Figure 3.2).[193]

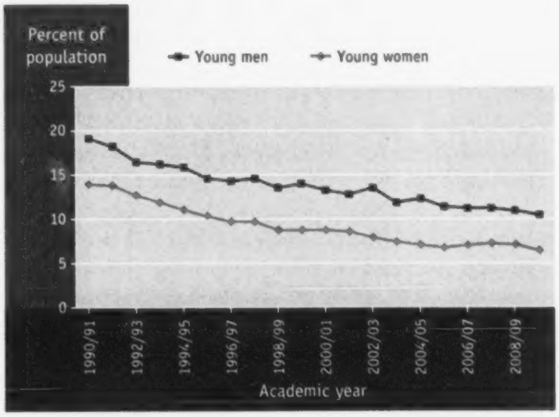
Table 3.2 Social and economic status of Canada's youth and young adults

Social and economic status	
Education, population aged 20 to 29 years, 2009 (percent)	
High school graduates	90.7
Some post-secondary education	69.1
Post-secondary graduates	52.9
Labour, population aged 15 to 29 years, 2008	
Paid employment rate (percent of population)	66.9
Full-time (percent of employed population)	68.6
Part-time (percent of employed population)	31.4
Income, 2008	
Average after tax annual income (population aged 16 to 19 years)	$6,200
Average after tax annual income (population aged 20 to 29 years)	$23,000

Note: More detailed information can be found in Appendix C: Definitions and Data Sources for Indicators.

Source: Statistics Canada.

Figure 3.2 High school dropout* rate, academic years 1990/1991 to 2009/2010[193]



* Defined as 20- to 24-year-olds without a high school diploma and not in school.

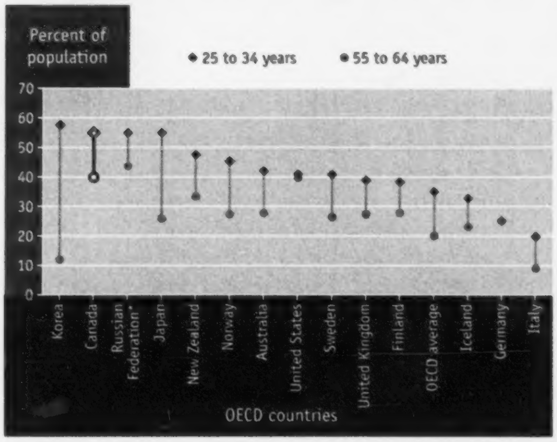
Source: Public Health Agency of Canada using data from Labour Force Survey, Statistics Canada.

Between the 1990/1991 and 2004/2005 school years, the percentage of dropouts choosing to restart their education increased for both young men (10% to 16%) and young women (12% to 22%).[194] However, returning does not always result in completion for either sex.[194] Among 18- to 20-year-old dropouts who returned to school during 2000 and 2001, almost 40% had dropped out again by the end of that two-year period.[194]

Dropout rates for 20- to 24-year-old immigrant and Aboriginal populations differ from those of the general Canadian population. In the 2009/2010 school year, the immigrant dropout rate of 6% was lower than the overall Canadian dropout rate.[193] The fact that immigrants are more highly concentrated in large cities, where dropout rates tend to be lower, and the high value that many immigrant families place on education may partly explain these lower rates.[193] Conversely, the off-reserve Aboriginal population had the highest dropout rates, averaging 23% over the 2007/2008 to 2009/2010 school years – more than two times greater than the rate for the non-Aboriginal population.[193] Although the reasons why Aboriginal students drop out of school are not known, the fact that a higher proportion of those who dropped out (75%) were employed compared to non-Aboriginal youth (48%) who had dropped out, suggests that socio-economic factors may be one important impetus.[195]

An increasing number of Canada's young adults are pursuing post-secondary education after high school, and completion rates have also been rising both in Canada and internationally (see Figure 3.3).[114, 196, 197] In 2008, 56% of Canadians aged 25 to 34 years had completed post-secondary education, second only to Korea and 21% more than the Organisation for Economic Co-operation and Development (OECD) average of 35%. In that same year, 40% of Canadians aged 55 to 64 years had also completed some form of post-secondary education at some point in their lives.[197] Assuming all of

Figure 3.3 Completion of post-secondary education by select age groups, select OECD countries, 2008[197]



* Year of reference 2002 instead of 2008.

Source: Public Health Agency of Canada using data from *Education at a Glance*, Organisation for Economic Co-Operation and Development.

those in the older cohort completed their studies at least 30 years earlier (i.e. by the time they were within the 25- to 34- year age range of the younger cohort), this would mean that the percentage of Canadians aged 25 to 34 years who completed post-secondary education increased by 16% (from 40% to 56%) between 1978 and 2008.[197]

Although the difference in proportions of males and females who completed high school was slight, this difference increased when it came to post-secondary education. In 2009, three-quarters (74%) of young women in Canada had at least some post-secondary education, compared to two-thirds (65%) of young men.[192] Similarly, 58% of young women had completed some form of post-secondary education, compared to 48% of young men.[192]

Post-secondary participation varies by geographic location. The Youth in Transition Survey (YITS) followed a cohort of Canadian youth aged 18 to 20 years over an eight-year period. During that time, two-thirds (66%) of the youth from urban communities completed some form of post-secondary education compared to only 57% of those from rural communities.[190] The YITS also found that fewer than 10% of off-reserve Aboriginal young adults had a university degree by the age of 26 to 28 years (at the end of the 8-year period) compared to more than 30% of non-Aboriginal young adults.[190]

During the 2009/2010 school year, 40% of young adults aged 18 to 24 years were attending college (15%) or university (25%).[198] The percentage was much lower for young adults aged 25 to 29 years – only 12% were enrolled in college (4%) or university (8%) – perhaps because of those who pursued post-secondary studies it is likely that many would have already completed them.[198] These percentages showed an increase from 1995/1996 when 34% of 18- to 24-year-olds and only 9% of 25- to 29-year-olds were enrolled in college or university.[198]

According to the 2006 Census, the top four major fields of post-secondary studies completed by young men aged 20 to 24 years were architecture, engineering and related technologies (35%); business management and public administration (15%); personal, protective and transportation services (8%); and mathematics, computer and information sciences (8%).[199] Young women of the same age most commonly completed their studies in business management and public administration (21%); health, parks, recreation and fitness (18%); social and behavioural sciences and law (17%); and humanities (10%).[199]

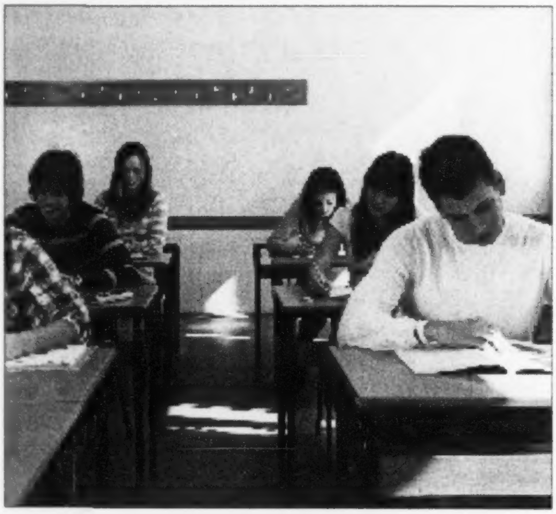
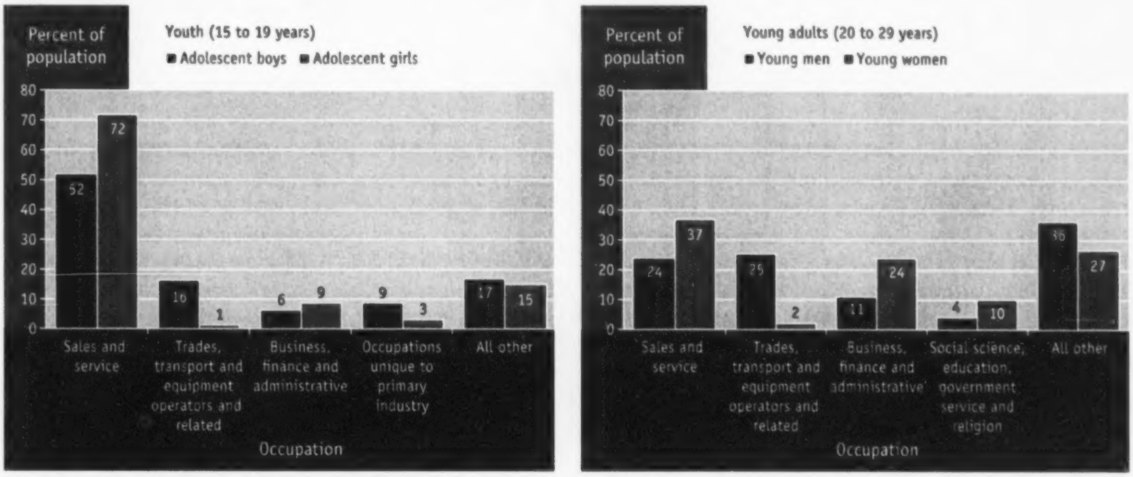


Figure 3.4 Occupation by sex, youth and young adults, Canada, 2006[201]



Sales and services such as food counter attendants, retail salespersons, grocery clerks, protective services, cashiers and cleaners; **Trades, transports and equipment operations and related** such as construction workers, mechanics and longshore workers; **Business, finance and administrative** such as clerical workers, finance and insurance workers, customer service and receptionists and switchboard operators; **Occupations unique to primary industry** such as agriculture, landscaping and ground maintenance labourers; **Social science, education, government service and religion** such as teachers, professors, paralegals, social service workers and policy and program officers; **All other** includes occupations related to management, natural and applied sciences, health, art, culture, recreation and sport, and processing, manufacturing and utilities.

Source: Public Health Agency of Canada using data from 2006 Census, Statistics Canada.

Employment

In 2008, more than two-thirds (67%) of Canadians aged 15 to 29 years – almost half (47%) of all 15- to 19- year-olds and three-quarters (76%) of all young adults – were employed, representing 26% of the total employed population in Canada.[192, 200] Of those youth who were employed, more held part-time jobs (70%) than full-time (30%), making up almost one-quarter of the total part-time Canadian labour force but only 2% of the full-time labour force.[192, 200] The reverse was true for employed young adults, among whom 80% were in full-time rather than part-time positions (20%), making up 20% and 21% of the full- and part-time labour forces respectively.[192, 200] Overall, the proportions of males and females were roughly equal among all employed youth and young adults, but females made up a larger proportion of part-time youth and young adult workers, while males made up a larger proportion of full-time workers.[192]

In 2006, the most common types of employment for youth aged 15 to 19 years and young adults in Canada were sales and services (62% of youth and 30% of young adults); trades, transports and equipment operation (8% and 14%); and business, finance and administration (8% and 17%).[201]

For youth, jobs associated with sales and services were the most common for both adolescent boys and adolescent girls (52% and 72% respectively), followed by trades, transport and equipment operations for adolescent boys (16%) and jobs in business, finance and administration for adolescent girls (9%) (see Figure 3.4).[201]

For young adults, jobs associated with sales and services were still the most common for young women (37%), followed by business, finance and administrative occupations (24%).[201] Young men however, were mostly working in trades, transport and equipment operations (25%) followed closely by jobs in sales and service (24%) (see Figure 3.4).[201]

With the completion of education, young adults continue to transition from part-time to full-time employment.[190] According to the YITS, only 15% of young adults between the ages of 26 and 28 years were still attending school and nearly 70% were working full-time.[190] Men in this age group were more likely than women to work in a full-time position.[190]

Some youth and young adults would like to be working but are not. Between 1990 and 2009, the overall unemployment rate for Canadian youth aged 15 to 19 years increased from 14% to 20%.[192] However, after an initial increase from 1990 to 1993, the rate fluctuated without a clear increasing trend over the next 16 years (see Figure 3.5).[192] Young adults experienced a more consistent trend as the rate of unemployment decreased from a high of 14% in 1993 to a low of 7% in 2008.[192] Those with fewer years of formal education experienced higher rates of unemployment (see Figure 3.5).[192] In 2009, across all levels of education, young women experienced lower levels of unemployment when compared to their male counterparts.[192]

As in previous recessions in the 1980s and 1990s, during the recent economic downturn between October 2008 and October 2009 more than half of the nearly 400,000 net jobs lost in Canada were among youth aged 15 to 24 years.[73] However, during the recovery youth unemployment rates did not change and were still as high as 14.3% in February of 2011.[202]

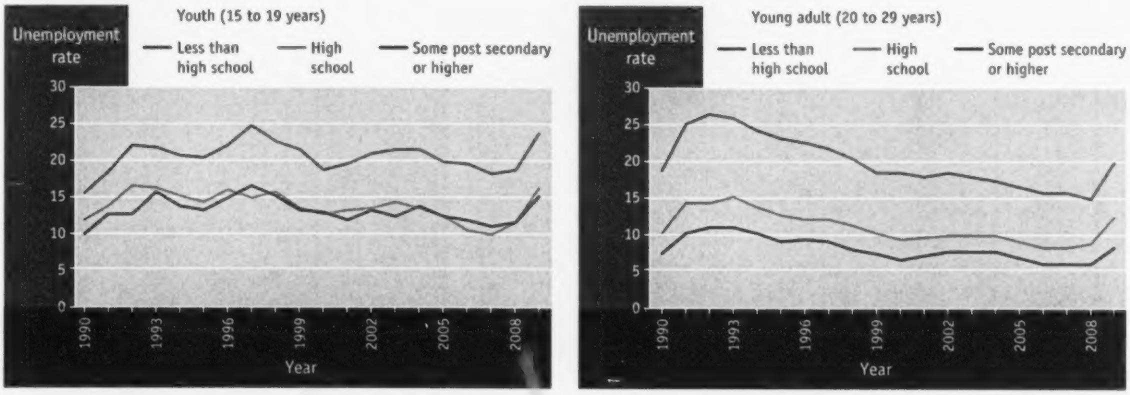
Income

Poverty extends beyond monetary earnings to include such concepts as lack of opportunities and an inability to participate fully in society.[203, 204] However, in the absence of a standardized indicator to measure the complex mix of factors that define it, income indicators are often used as proxy measures of poverty. The most commonly used indicator within Canada is the low income cut-off (LICO), which considers a family's portion of income spent on food, clothing and footwear, and shelter relative to other families of the same size and in the same geographic location.[205]

Based on the LICO, an estimated 6% of Canada's youth and 5% of young adults were living in low-income households in 2008, an improvement over rates estimated to be as high as 14% for youth and 8% for young adults in 1996 (see Figure 3.6).[206]

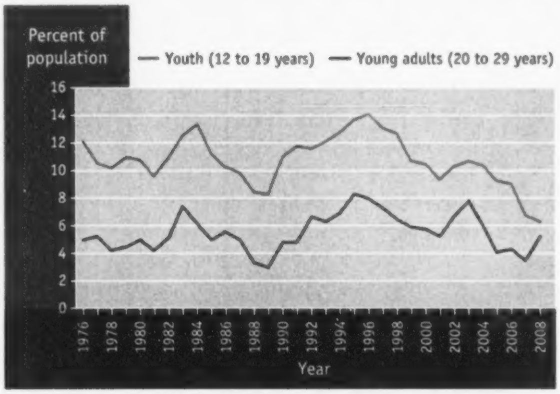
While youth income levels are largely linked to parental/household income levels, this gradually changes for young adults as they become more independent and transition from student to full-time employee. Their personal income is in part influenced by their level of education, sex and even immigration status.[190, 191] In 2008, the average after-tax income for youth aged 16 to 19 years was $6,200, while for young adults it was $23,000.[207] YITS respondents who had completed post-secondary education

Figure 3.5 Unemployment rate by highest level of completed education, youth and young adults, Canada, 1990 to 2009[192]



Source: Public Health Agency of Canada using data from Labour Force Survey, Statistics Canada.

Figure 3.6 Youth and young adults living in low-income households, after tax, Canada, 1976 to 2008[206]



Source: Public Health Agency of Canada using data from Survey of Labour and Income Dynamics, Statistics Canada.

had, on average, higher incomes than those with high school education or less, with the difference being greater for young women than young men.[190] On average, young women with a full-time job and a university degree made $18,000 more than young women with the lowest level of education.[190] For young men with full-time jobs and a university degree, there was a difference of $13,000 between the lowest and highest levels of attained education.[190] Regardless of education level, the average income of full-time employed young men was higher than that of full-time employed young women with an equivalent level of education.[190]

Many young adults begin their working lives in debt from their years in post-secondary education. Almost 60% of university students and 45% of college students graduated with some debt in 2009. Looking at all sources of borrowing, including family, government and non-government loans, college graduates owed on average $13,600, while university graduates owed twice as much, an average of $26,680.[208, 209] It is more difficult for these young adults to benefit fully from their increased level of income while repaying their debt which may delay or possibly reduce improvements in health outcomes linked to higher levels of income.

The current health of Canada's youth and young adults

This section explores the current health status of youth and young adults including physical health, mental health and health behaviours. It also highlights associated risk factors and identifies groups at greater risk of poor health outcomes or behaviours.

Data presented throughout this chapter often come from survey data. Despite the inherent limitations of self-reported data, such as the subjectivity of individual responses and the exclusion of those living in institutions and on reserves, such data can provide information otherwise not available.

Mental health and mental illness

Mental health is an important aspect of the overall health and well-being of Canadian youth and young adults and most mental illnesses begin to manifest themselves in adolescence and early adulthood.[210] Mental illness and mental health affect the lives of many young men and women and influence their health throughout the lifecourse. Positive mental health reduces the likelihood of leaving school early and raises attainment levels. It also leads to higher income potential and increases resilience.[211] Mental illness can increase the risk of certain physical health problems including chronic respiratory conditions and heart disease.[212-214] In addition, rates of poverty and unemployment are often higher among those with a mental illness.[212]

A considerable body of scientific research now supports the idea that mental health and mental illness are not on opposite ends of a single continuum with mental health increasing only as mental illness decreases.[210] Rather mental health and mental illness are best conceived as existing on two separate but related continua, therefore, mental health is more than the absence of mental illness.[215] Positive mental health consists of attributes such as having a purpose in life, positive relations with others, experiencing personal growth, social acceptance, social coherence and making contributions to society.[215] Consequently, it is very possible for people to have good

CHAPTER 3

The Health and Well-being of Canadian Youth and Young Adults

Mental health is the capacity of each and all of us to feel, think, and act in ways that enhance our ability to enjoy life and deal with the challenges we face. It is a positive sense of emotional and spiritual well-being that respects the importance of culture, equity, social justice, interconnections and personal dignity.[210]

Mental illnesses are characterized by alterations in thinking, mood or behaviour – or some combination thereof – associated with some significant distress and impaired functioning. ... Mental illnesses take many forms, including mood disorders, schizophrenia, anxiety disorders, personality disorders, eating disorders and addictions such as substance dependence and gambling.[210]

levels of positive mental health that allow them to live meaningful and productive lives regardless of having a mental illness or mental health problem.[215-217]

Many of the mental health problems and illnesses that concern youth and young adults are the same as those affecting Canadians of all ages. In addition, there exist a number of mental health issues of particular concern for this age group, including eating disorders and suicidal behaviour.

It is difficult to accurately determine the mental health state or rates of mental illness among Canadians because the data are limited. Nevertheless, the data that are available through surveys, studies and databases provide us with some understanding of the mental health of youth and young adults.

Mental health

A number of factors are commonly used as measures of individuals' mental health. These factors consider individuals' self-assessment of their mental health; sense of satisfaction with and control over their lives; sense of belonging; and relationships.[218] In 2009, more than three-quarters (77%) of Canadian youth and young adults described their mental health as being very good or excellent.[219] Compared to the overall population, larger proportions of immigrant youth and young adults (80% and 81% respectively) and smaller proportions of off-reserve Aboriginal youth and young adults (66% and 71% respectively) described their mental health as being very good or excellent (see Figure 3.7).[219] According to the 2008/2010 First Nations Regional Longitudinal Health Survey (RHS), the proportion of on-reserve Aboriginal youth aged 12 to 17 years who described their mental health as very good or excellent was also smaller (65%) than the general population.[220]

While the majority (92%) of all Canadians aged 12 years and older reported that they were satisfied or very satisfied with life in 2009, proportions were higher among the younger populations: 96% of youth and 94% of young adults reported being satisfied or very satisfied with life.[219, 221] However, compared to 25% of the overall

Table 3.3 Mental health of Canada's youth and young adults

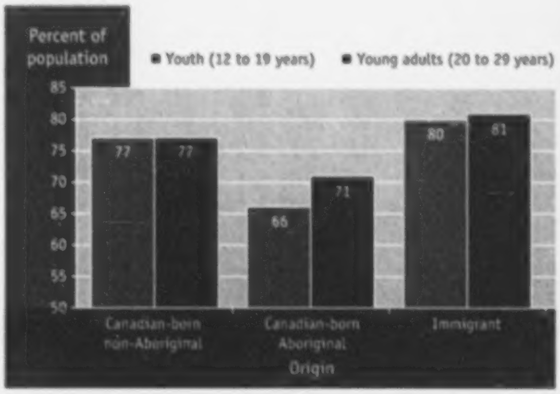
Mental health	
Population aged 12 to 19 years, 2009* (percent)	
Perceived mental health, very good or excellent	76.9
Life satisfaction, satisfied or very satisfied	96.4
Perceived life stress, quite a bit or extreme	13.9
Sense of community belonging, somewhat or very strong	74.7
Population aged 20 to 29 years, 2009* (percent)	
Perceived mental health, very good or excellent	77.3
Life satisfaction, satisfied or very satisfied	94.4
Perceived life stress, quite a bit or extreme	24.1
Sense of community belonging, somewhat or very strong	56.6

* Denotes self-reported data.

Note: More detailed information can be found in Appendix C: Definitions and Data Sources for Indicators.

Source: Statistics Canada.

Figure 3.7 Very good or excellent self-perceived mental health, by origin, youth and young adults, Canada, 2009[219]



Source: Public Health Agency of Canada using data from Canadian Community Health Survey, 2009, Statistics Canada.

Canadian population between the ages of 12 and 64 years, 14% of youth and 24% of young adults described most days as being quite a bit or extremely stressful.[219]

Of all age groups, the highest percentage (75%) of those who reported a somewhat or very strong sense of belonging to their community was among youth, and the lowest (57%) was among young adults.[219] For youth, feeling a sense of belonging at school can be likened to feeling a sense of belonging to their community. In the 2006 Health Behaviour in School-aged Children (HBSC) national survey of students in Grades 6 to 10 (ages 11, 13 and 15 years), the highest percentages of youth who felt they belonged at their school were in Grade 6 (71% of adolescent girls and 62% of adolescent boys) and the lowest percentages were in Grade 8 (58% of adolescent girls and 48% of adolescent boys).[45]

In a separate survey of current and former Canadian high school students, fewer sexual minority youth (those who identified as lesbian, gay, bisexual, transgender or questioning [LGBTQ]) reported feeling a sense of belonging to their school community. Compared to only 25% of their non-LGBTQ peers, 69% of transgender youth and 45% of LGB youth disagreed or strongly disagreed with the statement "I feel like a real part of my school."[222]

An individual's level of self-confidence can also be a measure of their mental health. The 2006 HBSC survey found that self-confidence varied by grade and sex. Almost half (47%) of Grade 6 adolescent boys reported that they had confidence in themselves, but the proportion dropped to less than a quarter (24%) among those in Grades 9 and 10. Proportions were consistently lower for adolescent girls than for adolescent boys, ranging from 36% in Grade 6 to only 14% in Grade 10.[45]

Youth and young adults living in low-income households may be at higher risk for mental health problems. In an analysis of national longitudinal data, Canadians living in lower-income households were found to have a higher risk of becoming distressed over time. The higher risk was partially accounted for by a higher prevalence of certain stressors in their lives, such as job strain, financial problems, relationship problems and recent life events.[223] Aboriginal, immigrant and homeless youth and young adults are over-represented among those living on low income in Canada and are thus more likely to experience such stressors.[224, 225] In addition, they may experience racism or discrimination harmful to their self-esteem, sense of identity and sense of control, all of which place them at higher risk for mental health problems.[226, 227]

Table 3.4 Mental illness of Canada's youth and young adults

Mental illness	
Population aged 12 to 19 years, 2009* (percent)	
Mood disorder	2.7
Anxiety disorder	4.0
Suicidal thoughts in the past 12 months† (population aged 15 to 19 years)	6.7
Population aged 20 to 29 years, 2009* (percent)	
Mood disorder	5.2
Anxiety disorder	5.8
Suicidal thoughts in the past 12 months†	4.3

* Denotes self-reported data.

† Data for 2002.

Note: More detailed information can be found in Appendix C: Definitions and Data Sources for Indicators.

Source: Statistics Canada.

Similarly, stressors such as stigmatization, harassment, bullying and a lack of appropriate education, services, protective measures and policies may put sexual minority youth and young adults at higher risk of mental health issues.[228, 229]

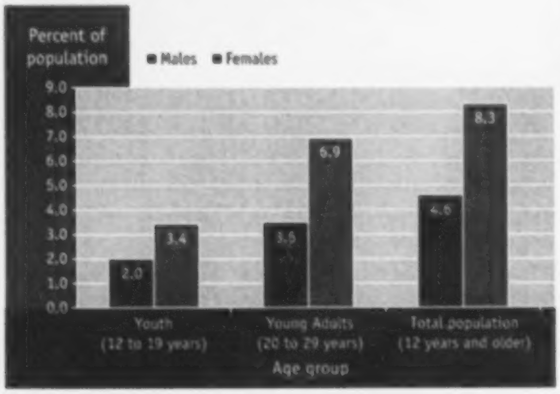
Mood disorders

Mood disorders include mental illnesses such as depression and bipolar disorder in which a person experiences distinct moods more intensely and for longer periods than normal.[230] In 2009, the overall percentage of Canadians aged 12 years and older who reported having been diagnosed with a mood disorder was just over 6.3%.[221] Although youth had the lowest percentage of mood disorders, with only 2.7% reporting a diagnosis (see Table 3.4), there was already a difference between sexes: 2.0% for adolescent boys and 3.4% for adolescent girls.[219] The overall percentages increased with age thereafter, as did the difference between men and women (see Figure 3.8).[219] Among young adults, the proportion of young men diagnosed increased to 3.5% and young women to 6.9%.[219] The percentages were also higher among off-reserve Aboriginal youth (6.6%) and young adults (6.1%), where females in particular had a much larger percentage of self-reported diagnoses with 9.7% of adolescent girls and 9.3% of young women reporting a mood disorder.[219] Conversely, a smaller proportion of immigrant youth and young adults (0.8% and 2.5% respectively) self-reported being diagnosed with mood disorders.[219]

The World Health Organization (WHO) estimated unipolar depression to be the single largest contributor to the burden of disease (a measure of the combined impact of mortality and morbidity a disease has on a population) among Canadians between the ages of 15 and 59 years.[231] Compared to any other disease, unipolar depression causes the greatest number of years lost to premature death and disability in this population.[231] When surveyed in 2002, 4.8% of all Canadians aged 15 years and older met all measured criteria for having a major depressive episode in the previous 12 months.[232] The proportion was highest for young adults, with more than 6.5% meeting the criteria (4.8% of young men compared to 8.2% of young women).[233] The percentage of all immigrants aged 15 years and older who met the criteria was smaller (3.5%) than in the overall population of the same age, as was the percentage of immigrant young adults (5.8%) compared to the total young adult population.[233] Among all Canadians aged 15 years or older, the average reported age of onset of a depressive episode was 28 years.[234]

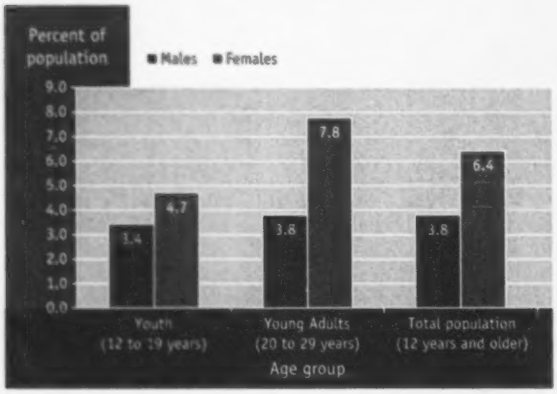
Mood disorders are distinct from normal moods in their depth and persistence, and in their interference in one's ability to function.[230]

Figure 3.8 Mood disorder by age group and sex, youth and young adults, Canada, 2009[219]



Source: Public Health Agency of Canada using data from Canadian Community Health Survey, 2009, Statistics Canada.

Figure 3.9 Anxiety disorder by age group and sex, youth and young adults, Canada, 2009[219]



Source: Public Health Agency of Canada using data from Canadian Community Health Survey, 2009, Statistics Canada.

Anxiety disorders

A certain level of anxiety is a normal reaction to stress. Anxiety disorders, however, occur when the anxiety is exaggerated in degree or duration relative to the stressor and interferes with everyday functioning. Panic disorder, phobias and obsessive-compulsive disorder are all types of anxiety disorders.[210] In 2009, 5.0% of Canadians aged 12 to 29 years reported being diagnosed with an anxiety disorder.[219] The proportion of young adults who reported a diagnosis was higher than for youth (5.8% compared to 4.0%) (see Table 3.4) and in both age groups the proportion of females was high than the proportion of males (see Figure 3.9).[219] The proportions were higher among off-reserve Aboriginal youth (9.1%) and young adults (11.6%), and lower among immigrant youth (1.8%) and young adults (1.9%).[219]

Some people experience extreme anxiety at a level of reaction out of scope to the nature of the trigger in the form of panic attacks. Those who suffer from recurrent and unexpected panic attacks are said to have a panic disorder.[235-238] Panic disorders affect Canadians of all ages, but they are most common, and most often begin, in adolescence or early adulthood.[239] In 2002, the lifetime prevalence of panic disorder among Canadians aged 15 to 29 years was just over 3%.[233] For all Canadians aged 15 and older, the average age of onset for panic disorder over the lifetime was 25 years – a transitional age when many are completing their education, entering the work force and forming relationships.[235] The impact of suffering from a panic disorder at such a key point could have long-lasting repercussions, including disruptions to family, work and social life and an increased risk of depression and suicide.[109, 235, 237, 239]

Eating disorders

Eating disorders such as anorexia nervosa and bulimia nervosa are characterized by an obsessive preoccupation with food and weight resulting in a serious disturbance in eating behaviour.[240] Eating disorders can have serious immediate and long-term consequences. Anorexia and bulimia can lead to death as a result of heart conditions and kidney failure. Those who suffer from eating disorders are also at greater risk of depression, alcohol dependence and anxiety disorders.[210]

In 2005/2006, adolescent girls were hospitalized for eating disorders at a rate 2.5 times the rate of young women and more than six times the rate of any other group.[170, 241] In 2002, 1.5% of young Canadian women aged 15 to 29 years reported that they had been diagnosed with an eating disorder.[233] Additionally, just over 3% reported behaviours and symptoms over the previous 12 months that suggested they were at risk of having an eating disorder whether they had been diagnosed or not. The percentages for young men were too low to report.[233]

Although eating disorders are more common among women than men, and affect adolescent and young adult women in particular, adolescent boys and young men are also vulnerable. It is estimated that 5% to 15% of anorexia and bulimia patients are male; however, this estimate may be low since males are less likely to be diagnosed.[242] Adolescent boys and young men with eating disorders, like adolescent girls and young women, have a distorted body image, often focused on their muscularity.[242] Males concerned with lack of muscularity are also at greater risk for steroid or other drug use.[242]

When asked about their body image, 34% of adolescent girls and 24% of adolescent boys in Grades 6 to 10 described themselves as too fat. Although the percentage of adolescent boys was consistent across grades, there was a clear increase with age for adolescent girls, from 25% in Grade 6 to 40% in Grade 10.[45] However, only 15% of those Grade 10 adolescent girls were actually overweight or obese based on their self-reported heights and weights.[45]

Bullying and aggression

Bullying can have a serious, lasting impact on the emotional health of victims. Experiencing interpersonal violence early in life, whether it is in the family, among intimate (dating) partners, or between peers, can contribute to short- and long-term health outcomes. Links have been made between these experiences and a number of public health issues, including substance abuse, aggression and bullying, mental health, and suicide.[243, 244] Further, research suggests there may also be associations between early engagement in bullying and later engagement in dating violence, intimate partner violence, child maltreatment and elder abuse.[45, 245-247]

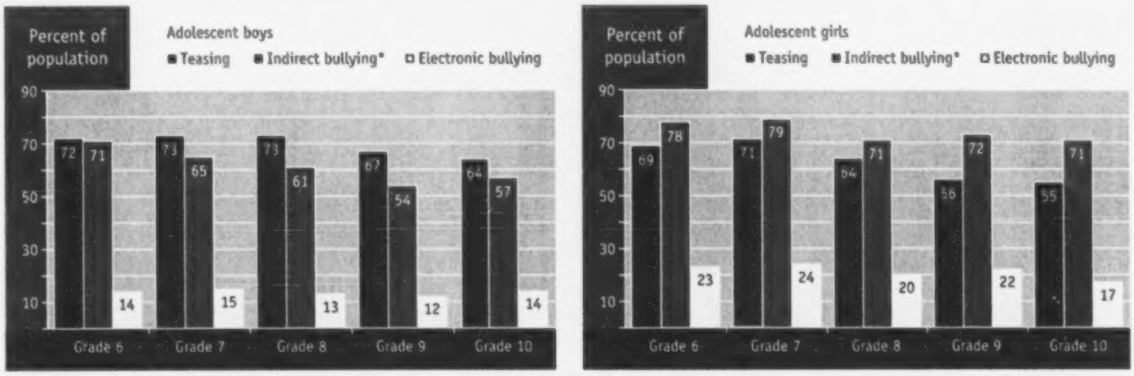
In the 2006 HBSC survey, 36% of students reported being victims of bullying, 39% reported being bullies and 20% reported being both.[45] Students with low academic achievement levels or who reported low levels of parent trust or negative feelings about the school environment were more likely to be involved in bullying either as bullies, victims or both.[45]

The most common forms of bullying reported were teasing and indirect bullying (e.g. exclusion or spreading lies about a victim). More than two-thirds of Grade 6 victims (72% of adolescent boys and 69% of adolescent girls) and more than half of Grade 10 victims (64% of adolescent boys and 55% of adolescent girls) reported being teased (see Figure 3.10).[45] Indirect bullying was slightly less common for adolescent boys ranging from 71% of Grade 6 male victims to 57% of Grade 10 male victims and slightly more common for adolescent girls ranging from 78% of Grade 6 female victims to 71% of Grade 10 female victims.[45] Electronic bullying through email or cell phone was consistently more common among female victims.[45]

Most forms of direct bullying, such as physical bullying, were more commonly reported by victimized adolescent boys across all grades (see Figure 3.11).[45] Rates of sexual harassment, while decreasing across most grades for victimized adolescent boys, increased across all grades and nearly doubled for victimized adolescent girls between Grade 6 and Grade 10 (23% to 44%).[45] Bullying for reasons of race and religion was also reported, but at lower levels – up to 21% and 16% respectively.[45]

Adolescent boys reported significantly more physical fighting than did adolescent girls in 2006, though this behaviour decreased with age. Among adolescent girls, prevalence of fighting was more consistent across grades.[45] Among adolescent boys, the target of a physical fight was most often a friend or acquaintance (48% of the time), while a greater proportion of adolescent girls targeted a sibling (47% of the time).[45]

Figure 3.10 Indirect forms of bullying in victim students by grade and sex, Canada, 2006[45]



* Indirect bullying includes exclusion or spreading lies.

Source: Public Health Agency of Canada using data from 2006 Health Behaviour in School-aged Children study.

The HBSC survey also found that a greater proportion of adolescent boys carried weapons at school, with 17% reporting that they carried a weapon in the previous 30 days, as compared to only 4% of adolescent girls. Of those students that carried weapons, most carried knives (61% for adolescent boys, 72% for adolescent girls). A larger proportion of adolescent boys carried handguns or other firearms (14% compared to 6% for adolescent girls).[45]

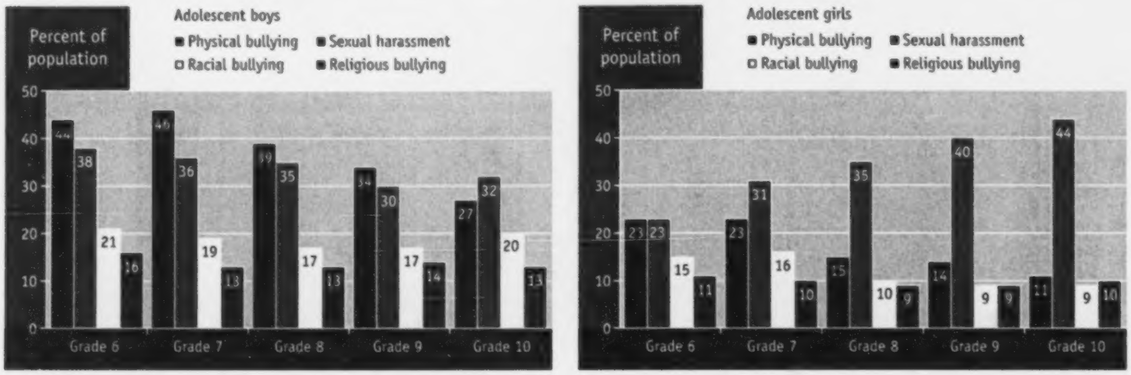
Sexual minority youth are at much higher risk of experiencing physical and sexual abuse, harassment and victimization at school or in the community.[248, 249] In an online survey of current and former Canadian high school students, 59% of LGBTQ youth reported being verbally harassed at school about their sexual orientation compared to 7% of heterosexual youth, and a higher percentage reported being physically harassed compared to non-LGBTQ students (25% compared to 8%).[222] LGBTQ students also reported bullying in the form of rumours or lies being spread about them, both at school (55%) and through text-messaging or the Internet (31%).[222]

Police-reported data show that the risk of violent victimization for youth increases with age.[250] In 2009, 50% of youth who were physically assaulted were assaulted by a close friend.[251] In the same year, 22% of all police-reported sexual offence and physical assault victims were youth aged 12 to 19 years.[251, 252] Although they accounted for a small percentage of all sexual offences and physical assaults, the rate of 1,676 per 100,000 population was more than double the rate of 781 per 100,000 population among adults aged 18 years and older.[179, 251, 252]

Police-reported data in 2008 showed the highest rate of dating violence victims was among adults aged 30 to 39 years.[253] However, self-reported data suggest otherwise, noting that young people aged 15 to 24 years are at the highest risk of being victims of dating violence although they may not report the violence to police.[253] The offence most frequently reported to police in dating relationships was common assault, such as pushing, slapping, punching and face-to-face verbal threats. Criminal harassment, uttering threats and major assault involving a weapon and/or causing bodily harm were the next three most common offences.[253] Female youth aged 15 to 19 years were victims of police-reported dating violence at a rate almost 10 times greater than the rate for males the same age.[253]

Although females were more often the victims in dating violence reported to the police, males are also victims, but may not report the violence to police for a number of reasons. In a 2008 survey in British Columbia, 9% of male high school students and 6% of female high school students who were in a relationship in the previous year reported being deliberately hit, slapped or physically hurt by their boyfriend or girlfriend while in a relationship. Among those who reported relationship violence, LGB youth were over three times more likely than their heterosexual peers to be victims.[254]

Figure 3.11 Direct forms of bullying in victim students by grade and sex, Canada, 2006[45]



Source: Public Health Agency of Canada using data from 2006 Health Behaviour in School-aged Children study.

Intentional self-harm

As will be seen later in this chapter, unintentional injuries are a leading cause of death and hospitalization for youth and young adults.[241, 255] However, negative health outcomes and even death can also result from injuries inflicted through intentional self-harm. Intentional self-harm can encompass both non-suicidal and suicidal behaviours.[256]

Non-suicidal self-injury (NSSI) can take many forms, but some of the more common include cutting or burning of the skin, scratching, hitting objects or oneself or pulling out one's hair.[256-259] In general, these behaviours are used as a coping strategy to deal with overwhelming negative emotions or to produce emotion when it is lacking.[256, 257, 260-263] NSSI is seen in individuals from as young as 5 years old to those older than 65 years. However, it is most common among youth and young adults, and onset usually occurs among youth aged 12 to 15 years.[256, 264, 265]

It is difficult to get an accurate indication of the prevalence of NSSI since it is usually hidden.[256, 264] Although not extensive enough to be representative of the entire population, surveys of both school- and university-aged youth and young adults produced some estimates. In a survey of youth in Grades 7 to 11 in two Canadian schools, 14% of students had self-injured at some time, with skin cutting being the most common form (41%). The majority of those students (59%) reported that they first engaged in the behaviour in Grade 7 or Grade 8.[266] In another survey of youth and young adults aged 14 to 21 years in British Columbia, 17% reported that they had intentionally harmed themselves at some point in their lives, most often (83%) through cutting, scratching or self-hitting and starting on average at age 15 years.[259] At two universities in the United States, 17% of the students surveyed admitted self-injuring and 7% had done so within the previous 12 months.[267] A survey of first-year students at a Canadian university found that almost three in ten had engaged in deliberate self-harm at least once.[268]

Although the secretive nature of self-inflicted injuries means they most often go unrecorded, at times they are severe enough to require hospitalization, resulting in some episodes being documented. In 2009–2010, self-injuries resulted in more than 17,000 hospitalizations among all Canadians age 15 years and older.[269] The rate of self-injury hospitalization was highest among adolescent girls aged 15 to 19 years with more than 140 hospitalizations per 100,000 population, compared to approximately 60 per 100,000 for adolescent boys of the same age.[269]

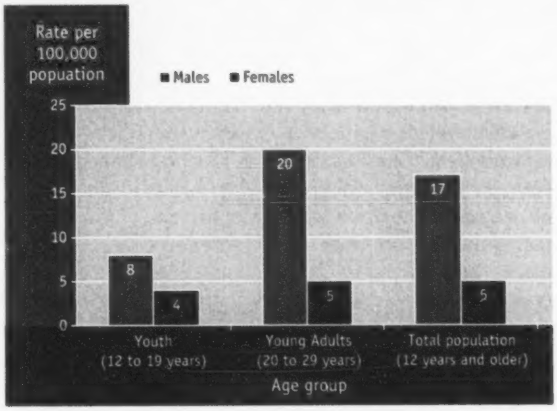
While many self-injuries are not intended as suicide attempts, research shows that those who self-injure are at greater risk of committing suicide later in life.[256, 262]

In 2002, 7% of youth aged 15 to 19 years and 4% of young adults reported that they had thought about committing suicide in the previous 12 months, compared to less than 4% of all Canadians aged 15 years and older.[232, 233] A higher proportion of adolescent girls reported suicidal thoughts than adolescent boys (9% and 5%, respectively), while the proportion of suicidal thoughts was the same among young women and young men (4%).[233] Each year many youth and young adults actually attempt suicide. While some of those attempts may go unrecognized, in 2005 there were more than 5,000 hospitalizations of Canadian (excluding Quebec, for which comparable data were not available) youth and young adults that were specifically classified as attempted suicides.[241] Females accounted for two-thirds (66%) of those suicide attempts.[241]

Unfortunately, some of those attempted suicides are completed. As a result, suicide is among the top causes of death for Canadian youth and young adults, second only to unintentional injuries.[255] In 2007, almost 800 youth and young adults committed suicide in Canada, and 76% of those deaths were among young men.[255] Within these age groups, the rate of suicide deaths is highest for young men with 20 deaths per 100,000 population – more than double the rate for adolescent boys and four times the rate for young women (see Figure 3.12).[179, 255]

In 2000, the suicide rate among First Nation youth aged 10 to 19 years was 28 per 100,000 population, more than four times the overall rate for Canada.[271] Higher rates do not, however, hold true for all First Nation youth and young adults. In a study of suicide in British Columbia, researchers found that although rates among First Nation youth aged 15 to 24 years were significantly higher overall than for non-Aboriginal youth, the rates varied from community to community. Whereas several communities had rates much higher than those of non-Aboriginal people, some communities had no youth suicides during those years. Lower rates of suicide were linked to an increased level of community control such as self-government, land claims, education, health services, cultural facilities and police/fire services.[58, 272]

Figure 3.12 Suicide rate per 100,000 population, by age group and sex, Canada, 2007[179, 255, 270]



Source: Public Health Agency of Canada using data from Canadian Vital Statistics, Death Database; and Population Estimates and Projections, Statistics Canada.

Data are limited for Inuit youth and young adults, but rates of suicide in Inuit regions as a whole are much higher than in the general Canadian population. From 1999 to 2003, the age-standardized mortality rate (ASMR) for suicide and self-inflicted injuries among both males and females in Inuit regions was 107 deaths per 100,000 population. In comparison, the ASMR for suicide and self-inflicted injuries in Canada overall was 10 deaths per 100,000 population during those same years.[273]

Sexual minority youth and young adults may be at higher risk for suicide than their heterosexual peers.[249] The Suicide Prevention Resource Centre in the United States examined a number of studies that suggested that LGB youth and young adults (generally between the ages of 15 and 24 years) are between 1.4 and almost 7 times more likely to attempt suicide than their heterosexual peers and as much as 3 times more likely to consider suicide.[274] In British Columbia, the 2008 Adolescent Health Survey (AHS) of students in Grades 7 to 12 found that 28% of LGB youth attempted suicide compared to 4% of heterosexual youth.[254] Based on the 2003 AHS, sexual minority youth were anywhere from two times (gay males) to five times (bisexual males, bisexual females and lesbians) more likely to report having considered suicide than their heterosexual peers.[275] In an Ontario study of trans (including transsexual, transgender and other gender-variant) youth aged 16 to 24 years, almost half (47%) reported having seriously considered suicide in the previous year and one-fifth (19%) attempted suicide.[276, 277]

Physical health

According to the 2009 Canadian Community Health Survey (CCHS), 68% of Canadian youth and 70% of young adults perceive their health as very good or excellent.[219] Although young Canadians experience lower overall mortality rates and fewer chronic conditions than older age groups, they are more prone to injuries and deaths due to injuries (see Table 3.5), have increasing rates of obesity and the highest rates of sexually transmitted infections (STIs) (see Table 3.6).

Mortality

Deaths among youth and young adults are uncommon, accounting for only 7% of all deaths of Canadians less than 65 years of age in 2007.[255, 270] Injuries and poisonings, both intentional and unintentional, were the most common cause of those deaths (70%), followed by cancers (8%).[255] Nearly three-quarters (72%) of all deaths of youth and young adults in 2007 were among adolescent boys and young men.[255]

As seen in Figure 3.13, although injuries and poisonings are the leading cause of death for all youth and young adults, they account for a much higher proportion of deaths among adolescent boys and young men (75%) than among adolescent girls and young women (56%).[255] Injuries and poisonings causing death among youth and young adults were most often due to transport incidents (39%), intentional self-harm (30%) and other causes of unintentional injury (17%) including falls and drowning.[255] For adolescent boys and young men, nearly one-fifth (18%) of transport incidents causing death were associated with the use of all-terrain vehicles, motorcycles and water transport vehicles.[255]

In 2008, approximately 100 young Canadian workers aged 15 to 29 years died in the workplace.[278] This represents

Table 3.5 Perceived health and mortality of Canada's youth and young adults

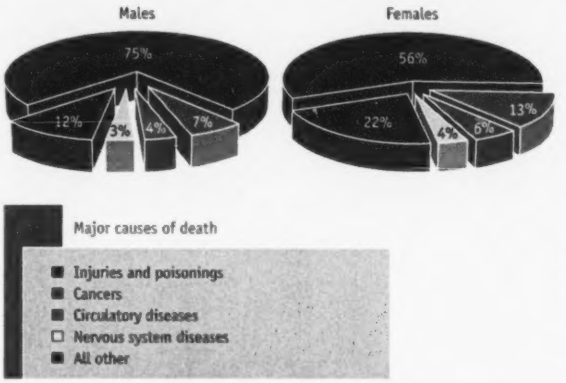
Physical health	
Perceived health, very good or excellent*, 2009 (percent of population aged 12 to 19 years)	67.7
Perceived health, very good or excellent*, 2009 (percent of population aged 20 to 29 years)	70.0
Mortality	
Rate per 100,000 population aged 12 to 19 years, 2007	
Injuries and poisonings	22.1
Traffic incidents	10.0
Intentional self-harm	6.1
Other unintentional injuries	3.1
Cancers	2.8
Nervous system diseases	1.7
Rate per 100,000 population aged 20 to 29 years, 2007	
Injuries and poisonings	40.2
Traffic incidents	14.5
Intentional self-harm	12.7
Other unintentional injuries	7.3
Cancers	4.7
Circulatory diseases	2.5

* Denotes self-reported data.

Note: More detailed information can be found in Appendix C: Definitions and Data Sources for Indicators.

Source: Statistics Canada and Public Health Agency of Canada.

Figure 3.13 Major causes of death by sex, youth and young adults aged 12 to 29 years, Canada, 2007[255]



Source: Public Health Agency of Canada using data from Canadian Vital Statistics, Death Database, Statistics Canada.

nearly 10% of all workplace deaths in Canada in that year.[278] Most deaths (96%) were among male workers, and the most common event associated with workplace death of young Canadians was highway collisions (27%), with construction (37%) being the most common industry.[279] Overall, the number of workplace fatalities experienced by young Canadian workers has remained relatively unchanged over the past five years.[279]

Ill health and disease

There a number of common physical health issues with clear and immediate short-term health effects for youth and young adults, as well as those known to have longer-term consequences. These issues, while not unique to youth and young adults, are of particular concern for young Canadians given their significance for the current and future health of this age group.

Table 3.6 Physical health of Canada's youth and young adults

Physical health	
Ill health and disease	
Asthma*, 2009 (percent of population aged 12 to 29 years)	11.1
Overweight or obese, 2007–2009 (percent of population aged 12 to 19 years)	29.4
Overweight or obese, 2007–2009 (percent of population aged 20 to 29 years)	42.7
Diabetes prevalence, 2004–2005 (percent population aged 15 to 19 years)	0.5
Diabetes prevalence, 2004–2005 (percent population aged 20 to 29 years)	0.8
Cancer incidence, 2007 (annual age standardized per 100,000 per year for population aged 15 to 29 years)	34.8
Population aged 12 to 19 years	
Medically unattended injuries*, 2009 (percent of injured population)	43.9
Hospitalizations due to injuries, 2005/2006‡ (percent of hospitalizations)	18.1
Population aged 20 to 29 years	
Medically unattended injuries*, 2009 (percent of injured population)	46.5
Hospitalizations due to injuries, 2005/2006‡ (percent of hospitalizations)	7.7
Sexually transmitted infections population aged 15 to 19 years, 2009	
Chlamydia (rate per 100,000 population)	1,041.7
Gonorrhea (rate per 100,000 population)	102.5
Infectious syphilis (rate per 100,000 population)	2.3
HIV (total number of positive HIV tests)	49
Sexually transmitted infections population aged 20 to 29 years, 2009	
Chlamydia (rate per 100,000 population)	1,021.2
Gonorrhea (rate per 100,000 population)	116.1
Infectious syphilis (rate per 100,000 population)	9.4
HIV (total number of positive HIV tests)	533

* Denotes self-reported data.

‡ Data excludes Quebec.

Note: More detailed information can be found in Appendix C: Definitions and Data Sources for Indicators.

Source: Statistics Canada and Public Health Agency of Canada.

Respiratory conditions

Asthma is one of the more commonly diagnosed respiratory diseases in Canadian youth and young adults.[280] In 2009, 11% of youth and young adults reported having physician-diagnosed asthma.[219] Immigrant youth and young adults appear to be less affected, with a prevalence of only 6% that same year.[219] Early onset of asthma has been linked to low birth weight, exposure to tobacco smoke and genetic predisposition, while later onset has been linked to genetic predisposition, obesity, increased exposure to allergens and environmental factors such as pollution.[280, 281]

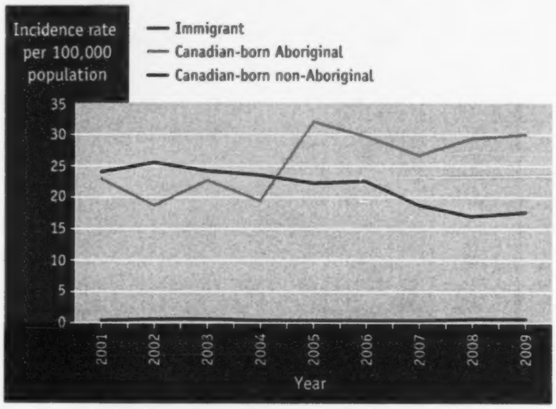
The rate of tuberculosis in Canada is low, and the disease is no longer common in the general population. Nevertheless, it remains a serious problem among First Nations and Inuit communities and immigrants from regions of the world with high prevalence of tuberculosis.[282, 283] Between 2000 and 2009, 71% of all tuberculosis cases among Canadians aged 15 to 29 years were in immigrants, 21% in Aboriginal peoples, 8% in Canadian-born non-Aboriginal peoples and 1% in Canadians of unknown origin.[284] The highest incidence rate of tuberculosis in 2009 was among Aboriginal peoples, which showed a significant increase since 2005 (see Figure 3.14).[284] Factors influencing the high number of tuberculosis cases in Aboriginal communities are thought to include overcrowded housing and limited access to health-care services in remote areas.[282, 285, 286]

Healthy weights

Levels of physical activity, access to healthy foods, educational attainment and income are just some of the influences that can increase the risk of obesity by shaping individual perceptions, knowledge and behaviours about healthy lifestyles and healthy weights.[287]

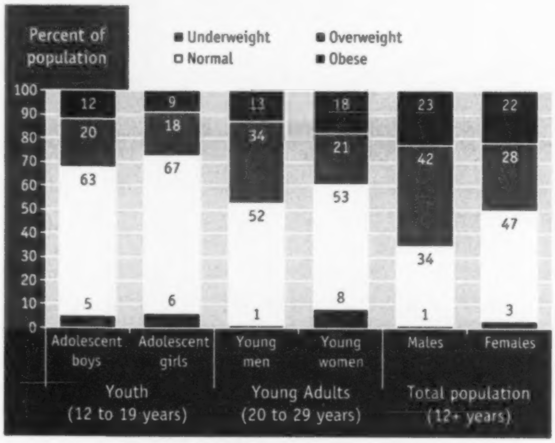
Canadian children are experiencing higher rates of obesity than in the past, and not surprisingly this also holds true for youth and young adults.[30] Between 1978/1979 (Canada Health Survey) and 2007–2009 (Canadian Health Measures Survey), rates of measured obesity for youth increased from 3% to 11%.[288, 289] Measured obesity rates for young adults more than doubled during the same period (increasing from 6% to 15%).[288, 289] Rates in 2007–2009 showed little difference between the

Figure 3.14 Tuberculosis incidence rate by origin, youth and young adults aged 15 to 29 years, Canada, 2001 to 2009[284]



Source: Public Health Agency of Canada using data from Canadian Tuberculosis Reporting System.

Figure 3.15 Measured BMI category by age group and sex, Canada, 2007–2009[289-291]



Note: Underweight, overweight and obesity cut-points for youth can be found in Appendix C: Definitions and Data Sources for Indicators.

Source: Public Health Agency of Canada using data from Canadian Health Measures Survey, 2007-2009, Statistics Canada.

percentages of adolescent boys and adolescent girls who were overweight (20% and 18% respectively) and obese (12% and 9% respectively) (see Figure 3.15).[289] Among young adults, there was a greater difference, with more young men considered overweight (34% compared to 21%), yet more young women considered obese (18% compared to 13%).[289]

Lower percentages of immigrant youth and young adults were measured as overweight or obese. Only 17% of immigrant youth were considered overweight and only 5% obese.[289] More adolescent immigrant boys were measured to be overweight or obese (26%) compared to adolescent immigrant girls (19%).[289] For young adult immigrants, 36% measured overweight and 3% measured obese.[289] As with immigrant youth, more young immigrant men were measured to be overweight or obese (46%) compared to young immigrant women (31%).[289] Length of time since immigration may play a role in immigrant overweight and obesity rates, with those living in Canada longer having higher percentages.[293]

Rates of measured overweight and obesity are even higher for Aboriginal youth and young adults. According to the 2009 CCHS, 20% of off-reserve Aboriginal youth reported being overweight and 7% obese.[219] There was little difference between the total percentage of overweight and obese off-reserve Aboriginal adolescent boys and girls (29% and 25% respectively).[219] The 2008/2010 RHS found similar self-reported results among on-reserve First Nation youth aged 12 to 17 years with 30% considered overweight and 13% considered to be obese.[220] Among off-reserve Aboriginal young adults, 30% measured overweight and 15% measured obese.[219] Again, a higher percentage of young men measured as overweight or obese (50%) compared to young women (40%).[219]

The **body mass index** (BMI) is a ratio of weight-to-height calculated as BMI = weight in kilograms/(height in metres)^2.[292] There are six categories* of BMI ranges in the weight classification system, each of which has an observed level of associated health risk:[292]

Classification	BMI Category (kg/m^2)	Level of Health Risk
Underweight	< 18.5	Increased risk
Normal weight	18.5-24.9	Least risk
Overweight	25.0-29.9	Increased risk
Obese	≥ 30.0	
Obese Class I	30.0-34.9	High risk
Obese Class II	35.0-39.9	Very high risk
Obese Class III	≥ 40.0	Extremely high risk

* Underweight, overweight and obesity cut-points for youth under 18 years of age can be found in Appendix C: Definitions and Data Sources for Indicators.

Physical activity plays a key role in achieving and maintaining health weights for all Canadians and increased levels of sedentary activity, including screen time, have been positively associated with obesity.[294] Between 2000/2001 and 2009, the percentage of youth who spent, on average, 15 or more hours per week participating in sedentary activities increased from 65% to 76%.[219, 295] A larger gap was seen in young adults with reported rates increasing from 57% to 75% during the same period.[219, 295]

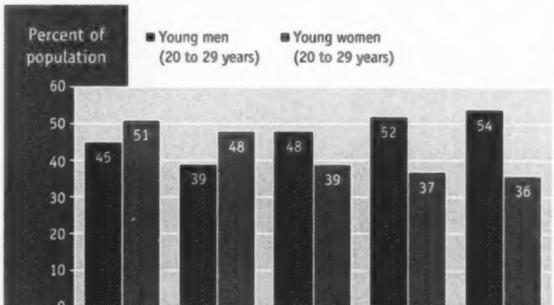
Eating habits also play a key role in maintaining or achieving healthy weights.[296] On the positive side, Canadian youth and young adults have increased their consumption of fruits and vegetables in recent years. Between 2000/2001 and 2009 the percentage of youth consuming fewer than five fruits and vegetables per day decreased from 60% to 51%.[219, 295] A similar change was also reported by young adults with reported rates decreasing from 65% to 56% during the same period.[219, 295] Nevertheless, it is not uncommon for young Canadians to consume unhealthy foods. In 2004, of all Canadians, fast food consumption was reported to be the highest among young men aged 19 to 30 years, 39% of whom reported consuming something prepared at a fast food restaurant the day before.[297] Among adolescent boys aged 14 to 18 years, one-third reported consuming something prepared at a fast food restaurant the day before.[297] Fewer young men (38%) reported eating only home-prepared meals than young women (43%).[297]

Levels of education and income have also been associated with rates of obesity.[290] Overweight and obesity rates among youth in households where the highest level of attained education was less than high school (34%) were higher than in households where the highest level of attained education was post-secondary (29%).[298] For young adults the pattern of obesity differs by level of income. As shown in Figure 3.16, overweight and obesity percentages for young women tend to be lower for those with higher levels of income. For young men, overweight and obesity percentages tend to be higher for those with higher levels of income.[298] While the cause for the inverse gradient between weight and income in men is unclear, some research has shown that men with higher incomes tend to eat out more frequently, possibly leading to a higher percentage being overweight or obese.[299, 300] Meanwhile, men with lower incomes tend work in more physically demanding jobs which may contribute to the lower percentages being overweight or obese.[299, 301]

Being overweight or obese when young can increase the risk of developing chronic health conditions later in life.[292, 296, 302] Unhealthy weights are associated with an increased risk of gallbladder disease, respiratory problems, cardiovascular diseases, hypertension, osteoarthritis, some types of cancer (e.g. breast, endometrial, colon, prostate and kidney), psychosocial problems, functional limitations and impaired fertility.[292, 296, 302]

Increasingly diagnosed in younger age groups, diabetes has also been associated with being overweight or obese, as well as physical inactivity.[303-307] In 2004/2005 the National Diabetes Surveillance System (NDSS) reported the prevalence of diabetes to be 0.5% for youth aged 15 to 19 years, and 0.9% for young adults.[304] While self-reported physician-diagnosed diabetes for off-reserve First Nation youth aged 15 to 19 years and for Métis youth (0.6% and 0.8%, respectively) were similar to that of Canadian youth, rates for Inuit youth were higher (1.5%) according to the 2006 Aboriginal Peoples Survey (APS).[308] Rates of self-reported physician-diagnosed diabetes for young adult Inuit and Métis (aged 20 to 34 years) were similar to the Canadian young adult rate (1.0% and 1.5% respectively) while the off-reserve First Nation rate was noticeably higher (2.8%).[308]

Figure 3.16 Percentage of measured overweight and obesity by income and sex, young adults, Canada excluding territories, 2004[298]



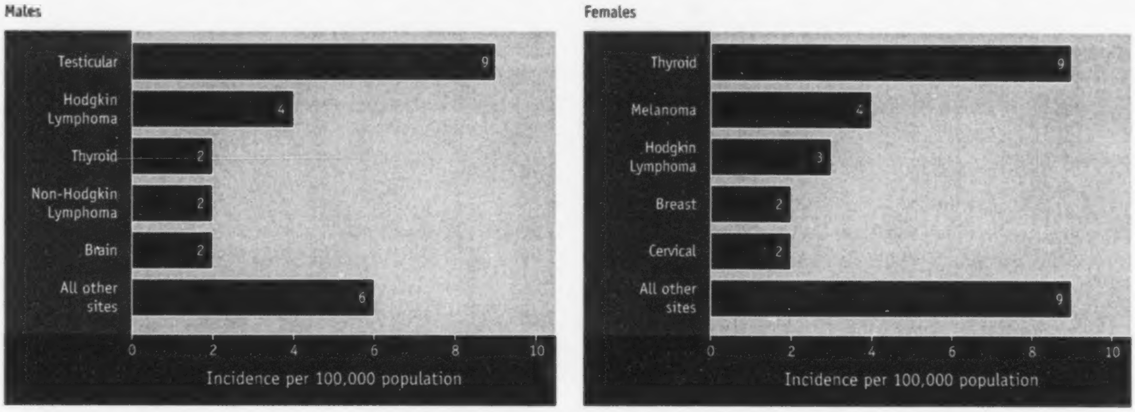
Source: Public Health Agency of Canada using data from Canadian Community Health Survey, 2004, Statistics Canada.

Cancer

The incidence of cancer among youth and young adults aged 15 to 29 years is much lower than in older age groups.[309] Overall, adolescent girls and young women aged 15 to 29 years tend to be diagnosed with cancer more often than adolescent boys and young men in this age range.[309] In 2007, the most diagnosed cancers in young females in this age range were thyroid, skin melanomas, Hodgkin lymphoma, breast and cervical (see Figure 3.17).[179, 310] Thyroid cancer was diagnosed twice as often in young women than in adolescent girls (11 per 100,000 compared to 5 per 100,000).[179, 310] The most commonly diagnosed cancers in young males were testicular, Hodgkin and non-Hodgkin lymphoma, thyroid and brain.[179, 310] Testicular cancer was diagnosed three times more often in young men than in adolescent boys (11 per 100,000 compared to 3 per 100,000).[179, 310] In fact, between 1998 and 2007, there were more cases of testicular cancer diagnosed in young men between the ages of 25 and 29 years than in any other age group.[179, 310]

Youth and young adults diagnosed with cancer have a much better chance of surviving than many other Canadians. The five-year observed survival proportion for youth and young adults, for all cancers diagnosed between 2001 and 2004, was 85% – much higher than the five-year relative survival ratio of 62% in the total Canadian population.[309] This is also an improvement over the five-year observed survival proportion of 80% for youth and young adults diagnosed almost a decade earlier, between 1992 and 1995.[309]

Figure 3.17 Incidence of select cancers by sex, youth and young adults aged 15 to 29 years, Canada, 2007[179, 310]



Sources: Public Health Agency of Canada using data from Canadian Cancer Registry, Public Health Agency of Canada, Canadian Council of Cancer Registries and Statistics Canada.

Injuries

Not only are injuries the leading cause of death for youth and young adults, every year hundreds of thousands of young Canadians suffer non-fatal injuries of varying degrees.[219, 220, 241, 255, 311, 312] Many of those injuries are not serious enough to require medical attention, while the most severe often necessitate hospitalization.[219, 241]

According to the 2009 CCHS, 27% of youth (29% of adolescent boys and 24% of adolescent girls) and 18% of young adults (23% of young men and 12% of young women) reported that they had suffered an injury in the previous 12 months that restricted their normal daily activities.[219] Of those who were injured, a little less than half (45%) of youth and young adults reported that they did not seek medical attention within 48 hours of the injury.[219] The most common medically unattended injuries were those related to the ankle and foot (34%), knee and lower leg (15%) and the hand (13%).[219] Most of these medically unattended injuries occurred while engaged in sports (57%) or at home (23%).[219]

More serious injuries may require a visit to the emergency room. The Canadian Hospitals Injury Reporting and Prevention Program (CHIRPP), which has been implemented in 15 hospital emergency departments in major cities across Canada, collected more than 30,000

According to the 2009 CCHS, when asked about specific sporting activities in the past 12 months, 29% of youth aged 12 to 19 years always wore a helmet when cycling and 34% always wore a helmet while in-line skating, while fewer always wore wrist guards (11%), elbow pads (10%), or all protective gear (8%); 62% of youth skiers always wore a helmet compared to only 55% of youth snowboarders, though more than three-quarters (76%) of youth who both ski and snowboard always wore a helmet; 16% of youth always wore a mouth guard while playing hockey.[219]

In contrast, when young adults were asked about specific sporting activities in the past 12 months, 24% of young adults aged 20 to 29 years always wore a helmet when cycling; 16% of young adults always wore a helmet while in-line skating, fewer always wore wrist guards (14%) or elbow pads (6%), while only 4% always wore all protective gear; 20% of young adult skiers always wore a helmet compared to only 31% of young adult snowboarders, more than one-quarter (26%) of youth who both ski and snowboard always wore a helmet; 14% of young adults always wore a mouth guard while playing hockey (3% of women compared to 16% of men).[219]

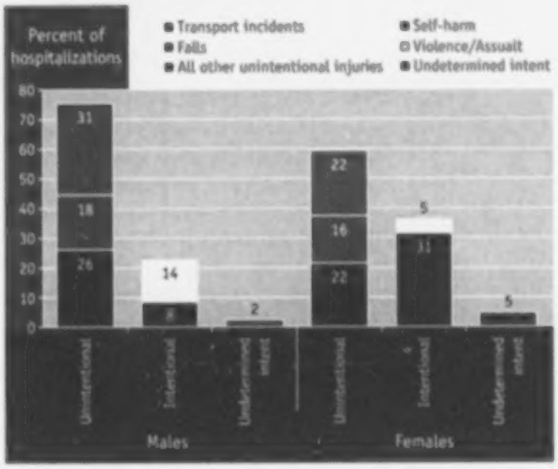
records associated with youth injuries from emergency departments in 2008.[311] Overall, more adolescent boys (63%) went to the hospital emergency departments than adolescent girls (37%).[311] Adolescent boys were primarily seen for minor injuries (37%) and fractures (27%), while adolescent girls were primarily seen for minor injuries (39%) and sprains (19%).[311]

Young adults also frequented emergency departments for their injuries. According to the National Ambulatory Care Reporting System (NACRS), select emergency departments in British Columbia, Ontario, Nova Scotia, Prince Edward Island and Yukon recorded nearly 200,000 visits from young adults due to unintentional injuries (24% of all emergency department visits for young adults) in 2008.[312] The common causes of injuries seen at these visits were falls (18%), transport incidents (12%) and overexertion (11%) (including strenuous or repetitive movements associated with lifting weight or heavy objects, marathon running and rowing).[312] Overall, a higher percentage of young men (64%) were seen compared to young women (36%).[312] For both young men and young women the most common injuries were to the wrist and hand (27% for young men, 20% for young women), the head (19% for young men, 13% for young women) and the ankle and foot (13% for young men, 18% for young women).[312]

According to the 2008/2010 RHS, 30% of on-reserve First Nation youth aged 12 to 17 years experienced some type of injury in the previous year.[220] The most commonly reported injuries among on-reserve First Nation youth were minor cuts, scrapes or bruises (43% of respondents), major sprains or strains (34% of respondents) and broken bones (30% of respondents).[220] Injuries were most often reported to be a result of falls (44% of respondents), accidental contact with people or animals (17% of respondents) and bicycle accidents (15% of respondents) and more than half of respondents (59%) experienced an injury while playing sports or during physical exercise.[220]

Severe injuries may require hospitalization. In 2005/2006, more than 35,000 Canadian (excluding Quebec, for which comparable data were not available) youth and young adults were hospitalized for injuries (10% of all youth and young adult hospitalizations).[241] More than two-thirds (70%) of those hospitalizations were due to unintentional injuries and 27% were due to intentional injuries.[241] For both youth and young adults, males accounted for more of the hospitalizations than females (66% compared to 34% for youth and 68% compared to 32% for young adults).[241]

Figure 3.18 Hospitalizations due to injuries, youth and young adults aged 12 to 29 years, Canada excluding Quebec, 2005/2006[241]



Source: Public Health Agency of Canada, using data from Hospital Morbidity Database, Canadian Institute for Health Information.

For both males and females, transport incidents and falls were the two most common causes of unintentional injuries resulting in hospitalizations (see Figure 3.18).[241] Males and females differed in their overall proportions of hospitalizations for intentional injuries. Compared to 22% for males, 36% of all injury hospitalizations among females were for intentional injuries, including 31% as a result of self-harm.[241]

A study of 2004/2005 acute care hospitalizations due to unintentional injuries among youth aged 10 to 19 years showed a difference in the causes of injuries by income. Those living in lower-income neighbourhoods were admitted more often because of cuts or poisonings than those living in higher-income neighbourhoods who were more likely than their lower-income counterparts to be admitted due to injuries as a result of falls or being struck.[313]

Given that such a large proportion of the youth and young adult population is employed, workplace injuries are a concern for this age group.[314] According to data collected by the Association of Workers' Compensation Boards of Canada, youth aged 15 to 19 years and young adults sustained nearly 80,000 workplace injuries in 2008 – 25% of all workplace injuries that year.[278, 279] The most commonly reported types of workplace injuries were a result of overexertion (20%) and being struck by an object (18%).[279] Manufacturing (18%), construction (16%) and retail (16%) industries constituted half of all workplace injuries for youth and young adults.[279] As with workplace-related fatalities, the majority (71%) of workplace-related injuries were experienced by young men.[279]

The National Work Injury Statistics Program source data originate from administrative records used by the Canadian Workers' Compensation Boards and Commissions to process workers' compensation claims. The information in these records is used to compile work-related injury and disease statistics.[278]

Data are representative of the number of workers covered by compensation, estimated at 80%, but differ from jurisdiction to jurisdiction.[278]

Sexually transmitted infections

An STI may be evident due to minor physical changes, pain or discomfort, but in many cases there are no symptoms at all and the infection often goes untreated.[100, 315, 316] Untreated STIs, whether they are symptomatic or not, can have long-lasting effects on health. In women, STIs have been linked to pelvic inflammatory disease (PID), ectopic pregnancies, miscarriages and low birth weight babies.[317] STIs have also been associated with various types of cancers including cervical, anal and penile.[317, 318]

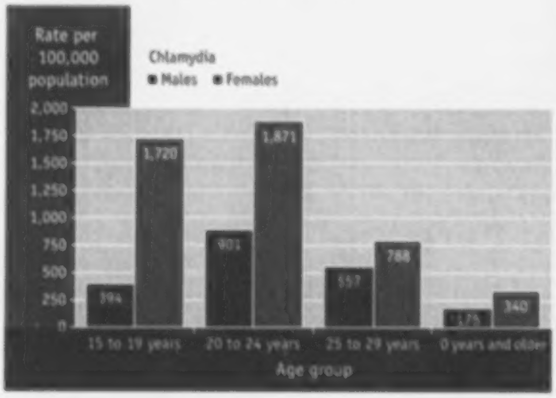
From 1994 to 2009, rates of STIs reported to the Canadian Notifiable Disease Surveillance System increased among the overall population. During that time the rate of chlamydia rose from 142.0 to 258.5 cases per 100,000 population, gonorrhea from 21.2 to 33.1 cases per 100,000 population, and infectious syphilis from 0.6 to 5.0 cases per 100,000.[161-163]

Although chlamydia infections have been increasing in all age groups over the past decade, Canadians under the age of 30 continue to have the highest reported rates.[161] In particular, young women between the ages of 20 and 24 years had the highest rate with 1,871 reported cases per 100,000 population in 2009, more than seven times the overall national rate and more than five times the overall female rate (see Figure 3.19).[161] Young men between the ages of 20 and 24 years also reported the highest chlamydia infection rates among males, although their rate of 901 cases per 100,000 population was half that of their female peers.[161] In 2000, First Nation adolescent girls and young women aged 15 to 24 years had a reported chlamydia infection rate of 6,572 cases per

The Canadian Notifiable Disease Surveillance System allows for the monitoring of reported cases of sexually transmitted infections (STIs). The number of reported cases of STIs and the resulting calculated population rates do not account for all infections in the population. In many cases, an infected individual does not show symptoms and as a result may not be tested.[100]

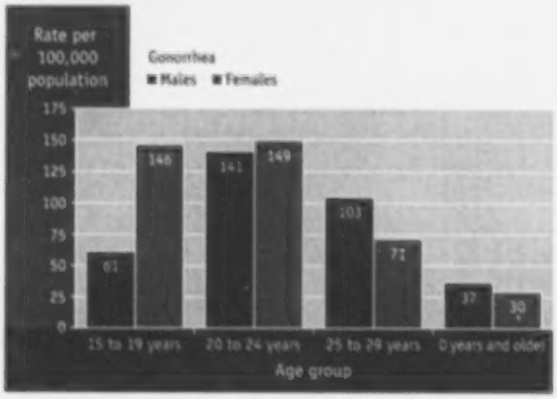
Changes in rates over time must also be interpreted with caution given that they are subject to changes in both screening practices and lab technology such as improved diagnostic capabilities. In addition, when the number of cases is very small the rates are more prone to fluctuations over time.

Figure 3.19 Rates of chlamydia by select age group and sex, Canada, 2009[161]



Source: Public Health Agency of Canada using data from STI (Sexually Transmitted Infections) Surveillance and Epidemiology.

Figure 3.20 Rates of gonorrhea by select age group and sex, Canada, 2009[163]



Source: Public Health Agency of Canada using data from STI (Sexually Transmitted Infections) Surveillance and Epidemiology.

100,000 population, more than five times the reported rates for all 15- to 19-year-old adolescent girls and all 20- to 24-year-old young women (1,234 cases per 100,000 population and 1,176 cases per 100,000 population respectively) in that year.[161, 164]

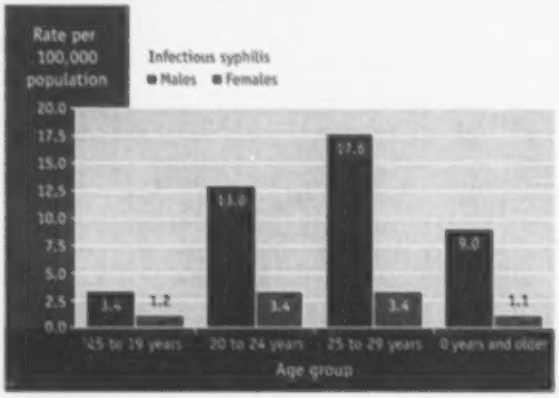
Canadians under the age of 30 years also accounted for the majority of reported cases of gonorrhea in Canada in 2009, with more than two-thirds (70%) of all reported cases being among youth and young adults aged 15 to 29 years.[163] The highest rates of reported infections, as with chlamydia, were in young men and women aged 20 to 24 years, with similar rates of 141 and 149 cases per 100,000 population respectively (see Figure 3.20).[163] Among youth aged 15 to 19 years, the infection rate was more than twice as high in adolescent girls than in adolescent boys, yet for young adults aged 25 to 29 years, young men had a higher rate than young women of the same age.[163]

Although the reported rates of infectious syphilis have been rising overall since 1996, a sharp increase began in 2000.[162] The greatest increase in reported rates of infectious syphilis was among young men aged 25 to 29 years with the rate increasing from 1.7 cases per 100,000 population in 1994 to 17.6 cases per 100,000 population in 2009.[162] Unlike chlamydia and gonorrhea, rates of infectious syphilis in 2009 were higher in men than in women, in all age groups (see Figure 3.21).[162] The reported rates of infectious syphilis for females were much lower, with the highest rate in 2009 of 3.4 cases per 100,000 population for both 20- to 24-year-old and 25- to 29-year-old young women.[162]

More than one-fifth (22%) of all positive human immunodeficiency virus (HIV) tests in Canada were among young adults aged 20 to 29 years in 2009.[319] Youth aged 15 to 19 years and young adults accounted for a higher proportion of all positive tests among females than among males.[319] Almost one-in-twenty (4.5%) female case reports were in the 15- to 19-year-old age group (compared to 1.2% for males) and 25% were in the 20- to 29-year-old age group (compared to 21.1% for males).[319] Among youth and young adults aged 15 to 29 years who tested positive for HIV in 2009, the most commonly reported exposure category was men having sex with men (32%). This was followed by heterosexual contact (15%) and injection drug use (15%).[319]

Street-involved youth are at an elevated risk for STIs. A 2006 survey of Canadian street-involved youth aged 15 to 24 years found that 10% had chlamydia (9% of males and 11% of females) compared to approximately 1% of

Figure 3.21 Rates of infectious syphilis by select age group and sex, Canada, 2009[162]



Source: Public Health Agency of Canada using data from STI (Sexually Transmitted Infections) Surveillance and Epidemiology.

all youth and young adults aged 15 to 24 years. The same survey found that the gonorrhea infection rate of 1% for street youth was 10 times the rate for youth aged 15 to 24 years in the general population.[320]

Although the human papillomavirus (HPV) is not a notifiable STI, it is one of the most common. It is estimated that the majority of sexually active Canadians (more than 70%) will contract an HPV infection at some point in their lives.[318] Although most cases will be asymptomatic and require no treatment, persistent infections of certain types of HPV are a major cause of cervical cancer in women and research suggests they may also be the second leading cause of lung cancer after smoking.[318, 321] Other types of HPV have also been linked to genital warts, penile cancer and anal cancer.[318]

Health risk behaviours

It is normal for youth and young adults to engage in risk-taking behaviours. It is a function of the stage of their brain development and their need to develop responsibility and independence.[322] But not all risks are equal; some youth and young adults partake in riskier behaviours such as smoking, consuming alcohol, drug use or risky sexual behaviours (see Table 3.7). Young Canadians may also be engaging in distracting behaviours that put them at risk while driving, such as talking and texting on cell phones, eating, drinking or using a global positioning system (GPS). In 2007 there were 2,500 collisions involving distracted drivers aged 16 to 19 years – down from 3,100 in 2000.[100] Among drivers aged 20 to 29 years, the number of collisions involving an inattentive driver remained steady in that time, at about 5,000 per year.[100]

Many studies have noted that, compared to young females, young males are more prone to taking risks related to such matters as conflict and sexual behaviour, driving, drugs and outdoor activities.[323-330] Moreover, they are more likely to take those risks in the presence of their peers.[331] Their greater number of accidental deaths and injuries can be seen as an outcome of some of this risk-taking.[332] For example, male drivers are involved in more fatal and injury automobile collisions than female drivers, and drivers aged 20 to 29 years are involved in more collisions than drivers aged 16 to 19 years (most likely due to there being a greater number of young adult drivers than youth drivers).[100]

Youth engaged in extracurricular and community activities are less likely to engage in risky activities. Adolescents with strong connections to their parents and positive school experiences, including relationships with teachers and peers, demonstrate less risk-taking.[47, 53] Conversely, major risk-taking occurs among teens with lower social integration.[333]

Table 3.7 Health behaviours of Canada's youth and young adults

Health behaviours	
Sexual health, 2008	
Teen pregnancy rate (per 1,000 female population aged 15 to 19 years)	14.3
Substance use population aged 15 to 19 years, 2009 (percent)	
Heavy drinking* (5+ drinks on one occasion at least once a month in the past year)	31.7
Cannabis use in the past year*	27.1
Illicit drug use excluding cannabis in the past year*	6.6
Current smoker*	13.0
Substance use population aged 20 to 29 years, 2009 (percent)	
Heavy drinking* (5+ drinks on one occasion at least once a month in the past year)	39.7
Cannabis use in the past year*	24.0
Illicit drug use excluding cannabis in the past year*	7.6
Current smoker*	22.5

* Denotes self-reported data.

Note: More detailed information can be found in Appendix C: Definitions and Data Sources for Indicators.

Sources: Statistics Canada and Health Canada.

Risky sexual behaviours

Although sex and sexuality are a natural part of life, they are not without risk. Sexually active youth and young adults may engage in sexual behaviours that could put them at risk for negative health outcomes, such as STIs and their associated consequences, or unplanned pregnancy.[334, 335]

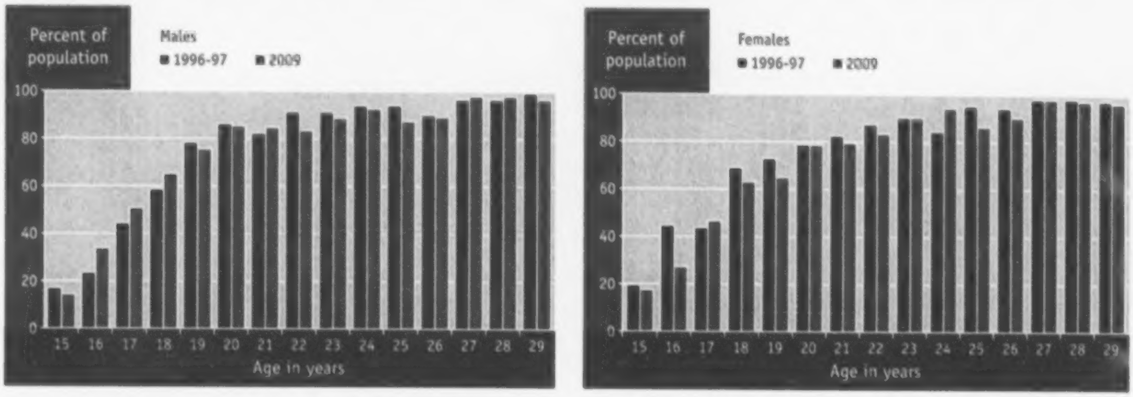
Early sexual activity may lead to increased risk of additional risky sexual behaviours.[334, 335] Young sexually active adolescents may lack maturity, knowledge or understanding of the consequences of their behaviours or may not have access to protection against unplanned pregnancy or STIs.[334, 335] The average age of first sexual intercourse reported by youth aged 15 to 19 years and young adults in 2009 was between 16 and 17 years, with 27% reporting that they had had sexual intercourse for the first time before the age of 16 years.[219] In comparison, the average age of first sexual intercourse reported by street-involved youth in 2006 was 14 years.[320]

While not all youth and young adults are sexually active at such a young age, in 2009, almost half (46%) of all youth aged 15 to 19 years and nine out of ten young adults reported that they had had sexual intercourse at least once in their lives. The proportions increased with age however, with only 15% of 15-year-olds having had sexual intercourse at least once compared to a high of 97% of 27-year-olds.[219] These numbers are similar to those seen among youth and young adults more than a decade earlier (see Figure 3.22).[336] In 1996/1997, 47% of youth aged 15 to 19 years and 91% of young adults had had sexual intercourse at least once, ranging from 18% of 15-year-olds to 97% of 27-year-olds. In both years and for all ages, proportions vary slightly between males and females but there is little overall difference (see Figure 3.22).[219, 336]

Having multiple partners and unprotected sexual intercourse are both risky sexual behaviours. Of those youth and young adults who reported having sex in the 12 months previous, more than one-third (37%) of those aged 15 to 19 years reported having had more than one sexual partner in the past year compared to less than one-quarter (24%) of young adults.[219] However, of those were not in a monogamous married or common-law relationship, the majority of youth (75%) reported using a condom the last time they had sexual intercourse, whereas only 58% of young adults reported doing so.[219] In 1996/1997, fewer youth and young adults reported having multiple partners, with 29% of youth and 18% of young adults having more than one partner in the previous 12 months.[336]

Studies have found that sexual minority youth frequently report higher rates of risky sexual behaviours than their heterosexual peers, including early first sexual experience (before age 13 or 14 years), multiple partners, unprotected sexual intercourse, survival sex, and lower

Figure 3.22 Percentage of population by age and sex who have had sexual intercourse, youth and young adults aged 15 to 29 years, Canada, 1996–97 and 2009[219, 336]



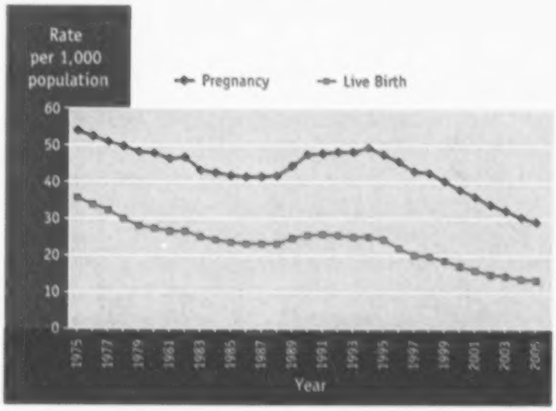
Source: Public Health Agency of Canada using data from National Population Health Survey, 1996/1997; and Canadian Community Health Survey, 2009, Statistics Canada.

rates of condom use.[337] Street-involved youth also take greater risks associated with sexual behaviour. In 2006, 94% reported having multiple partners in their lifetime, and 43% in the previous three months.[320] Although condom use was not influenced by age, the sex of the partner contributed to the likelihood of barrier use (condom, female condom or dental dam) during the most recent incidence of sexual intercourse. Although 59% of males reported using a barrier with a female partner, only 23% of females reported barrier use with a female partner. However, reported use of a barrier was more similar between males (55%) and females (47%) when their partner was a male.[320]

One potential outcome of risky sexual behaviour, such as unprotected sex, is an unplanned pregnancy. There has been a steady decline in teen pregnancy and birth rates over the 30-year period from 1975 to 2005 (see Figure 3.23).[107] Despite a slight upward trend in the early 1990s, rates fell from 54 pregnancies and 36 births per 1,000 15- to 19-year-old adolescent girls in 1975, to 29 pregnancies and 13 births per 1,000 15- to 19-year-old adolescent girls in 2005.[107]

When young people do not have the knowledge to make safe choices, they may be more likely to engage in risky behaviours. If they do not fully understand the consequences of their actions they are less likely to take the necessary precautions to prevent negative outcomes.[334, 335, 338] In 2002, the Canadian Youth, Sexual Health and HIV/AIDS Study surveyed youth in Grades 7, 9 and 11 (aged approximately 12, 14 and 16 years) about their sexual health and behaviours. Although the

Figure 3.23 Rates of pregnancy* and live birth, female youth, Canada, 1975 to 2005[107]



* Pregnancy includes live births, induced abortions and fetal loss.

Source: Public Health Agency of Canada using data from Canadian Vital Statistics, Birth Database, Statistics Canada.

majority correctly answered questions about the means of transmission of HIV, almost two-thirds (64%) of Grade 9 students, almost half (49%) of Grade 11 adolescent boys and more than one-third (37%) of Grade 11 adolescent girls believed there are vaccines to prevent HIV and AIDS.[339] Additionally, two-thirds (67%) of Grade 7 students, half (52%) of Grade 9 students and one-third (36%) of Grade 11 students believed HIV and AIDS can be cured if treated early.[339] Students also showed a lack of knowledge concerning complications of other STIs. Approximately two-thirds (64%) of Grade 9 students and half (54%) of Grade 11 students believed chlamydia does not lead to serious complications, and only 6% of Grade 9 students, 6% of Grade 11 adolescent girls and 8% of Grade 11 adolescent boys knew that men and women are not equally likely to have serious problems from an STI.[339]

Substance use

Recent Canadian surveys show that tobacco, alcohol and cannabis are the substances most frequently used by youth and young adults.[254, 340-343] Experimentation with these substances may be part of the transition to adulthood for some youth, but for a few it can lead to substance use problems.[344, 345]

Some populations of youth and young adults are at an increased risk for heavy use of substances and substance abuse. Sex is a strong predictor of substance abuse problems, with men more likely to use substances and to use them heavily.[343] However, according to some recent surveys, the sex gap may be narrowing and young women are becoming as likely as young men to drink alcohol, binge drink, get drunk, smoke, and use illicit drugs.[346-348]

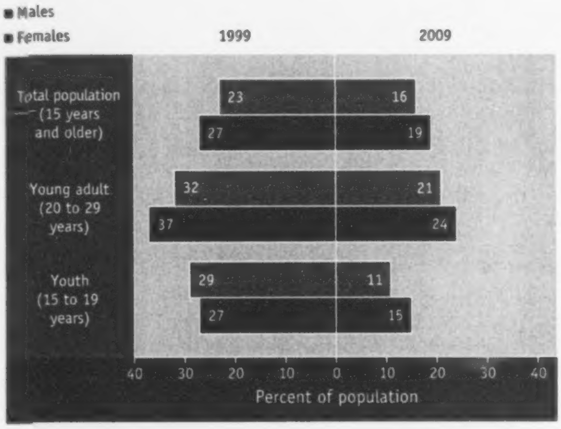
Substance use is a common response to sexual abuse during childhood or adolescence.[349] Following sexual violence, youth who experience post-traumatic stress, depression or suicidal thoughts may try to use drugs to manage their moods.[343, 350] Many young people in custody reported being diagnosed with substance abuse or dependence disorders and may have been street-involved or homeless.[351]

Runaway, street-involved and homeless teens may use drugs as part of their survival methods on the street and have consistently higher rates of substance abuse and adverse consequences compared with youth in school.[23, 352, 353] Compared to their peers, sexual minority youth are more likely to smoke, drink and use cannabis, and to report problems with substance abuse.[343] A higher percentage of street-involved youth identify as gay, lesbian or bisexual compared with youth in school, and sexual minority street-involved youth appear to have greater risks of violence and substance abuse than heterosexual homeless teens.[343] First Nation, Inuit and Métis youth are also at higher risk of substance abuse for similar reasons such as trauma and abuse, discrimination, harassment at school, and being over-represented in the street-involved population and youth in custody.[343, 354]

Tobacco use

Most smokers begin smoking in adolescence. In 2009, 22% of smokers aged 25 years and older reported having had their first cigarette before the age of 12 years, 59% by the age of 15 years, and 87% before the end of their teens.[355] Young adults have the highest smoking rate of all age groups in Canada. In 2009, 23% of young adults aged 20 to 29 years were smokers, compared with 13% of youth aged 15 to 19 years.[355] There has been a gradual decline in the smoking rate among youth aged 15 to 19 years and young adults over the past decade, down from 28% and 34% respectively in 1999 (see Figure 3.24).[355, 356]

Figure 3.24 Percentage of youth and young adult smokers by sex, Canada excluding territories, 1999 and 2009[355, 356]



Source: Public Health Agency of Canada using data from Canadian Tobacco Use Monitoring Survey, Health Canada.

Smoking rates are higher among some sub-populations compared to the Canadian average. In 2006, 15% of all Canadian youth aged 15 to 19 years were considered daily or occasional smokers compared to 30% of Métis, 38% of off-reserve First Nations and 68% of Inuit youth in the same year.[308, 357] Inuit adolescent girls had the highest overall Aboriginal youth smoking rate at 76%.[308] In 2008/2010, 33% of on-reserve First Nation youth aged 12 to 17 years reported being daily or occasional smokers.[220] Similarly, smoking rates for young adults aged 20 to 34 years are also higher in the Aboriginal population. In 2006, 25% of Canadian young adults were considered daily or occasional smokers compared to 43% of Métis, 51% of off-reserve First Nations and 75% of Inuit young adults in the same year.[308, 357] In 2006, 79% of street-involved youth smoked every day with no difference between males and females.[320]

Because it is illegal to sell tobacco products to anyone under the age of 18 or 19 years (depending on province/territory), youth must find alternate sources. In the 2008-2009 Youth Smoking Survey (YSS) 60% of smokers aged 12 to 17 years reported obtaining cigarettes from social sources, including family/friends, purchasing them from someone else or having someone purchase them for them.[358]

Even youth who are not smokers themselves may be at risk for the negative health consequences given that they are the age group most at risk of exposure to second-hand smoke. Compared to the older population, youth are less likely to be able to control their exposure to second-hand smoke, placing them at greater risk.[359] The 2009 Canadian Tobacco Use Monitoring Survey indicated that 10% of children aged 12 to 17 years were regularly exposed to second-hand smoke at home, a significant decrease from 31% in 2000.[360, 361]

Smoking during pregnancy increases the risk of unhealthy fetal growth and development. In 2009, 21% of young women aged 20 to 24 years who were pregnant in the previous five years reported smoking regularly during their most recent pregnancy, compared with 7% of women aged 25 to 44 years.[362] According to the 2006-2007 Canadian Maternity Experiences Survey (MES), 29% of adolescent girls aged 15 to 19 years and 24% of young women aged 20 to 24 years smoked daily or occasionally during the last three months of their pregnancy, more than double the rate of any other age group.[363] Even more indicated that they lived with a smoker during their pregnancy: 62% of adolescent girls aged 15 to 19 years; 43% of young women aged 20 to 24 years; and 23% of young women aged 25 to 29 years.[363]

Alcohol use

Alcohol is the most common substance used by Canadian youth and young adults.[343] On average, youth first use alcohol at around the age of 16 years – two to three years before the legal drinking age in Canada's provinces and territories.[364]

According to the 2009 CCHS, more than two-thirds (70%) of Canadian youth aged 15 to 19 years had consumed alcohol in the previous 12 months and nearly half (48%) had consumed it regularly (at least two to three times per month).[219] Overall, nearly one-third (32%) of youth reported heavy drinking (consuming, on average, five or more drinks at least once per month).[219] Additionally, 14%

of adolescent boys and 7% of adolescent girls reported having five or more drinks at least once per week.[219] Nearly half (47%) of immigrant youth had consumed alcohol in the previous 12 months and one-third were considered regular drinkers.[219] Similar to the general population, 30% of immigrant youth reported heavy drinking.[219]

In the 2006 APS, two-thirds of off-reserve First Nation (66%) as well as Métis (76%) and Inuit (53%) youth, aged 15 to 19 years, reported consuming alcohol in the previous 12 months and 42% had consumed it regularly (41% of off-reserve First Nation, 46% of Métis and 30% of Inuit).[308] Overall, one-third of off-reserve First Nation (35%), Métis (32%) and Inuit (38%) youth reported heavy drinking.[308] According to the 2008/2010 RHS, about 40% of on-reserve First Nation youth (aged 12 to 17 years) reported consuming alcohol in the previous 12 months.[220] More than half (51%) of those who consumed alcohol reported having five or more drinks on one occasion, at least once per month in the previous 12 months.[220]

Young adults are of legal drinking age in all Canadian provinces and territories, and almost all of them had consumed alcohol to some degree (72% on occasion and 15% regularly) in 2009.[219] Of those, 15% indicated that they drank, on average, five or more drinks one or more times per week.[219] Overall, more young men (90%) consumed alcohol than young women (84%).[219] In comparison, two-thirds of young adult immigrants had consumed alcohol in the previous 12 months and nearly half (49%) were considered regular drinkers.[219]

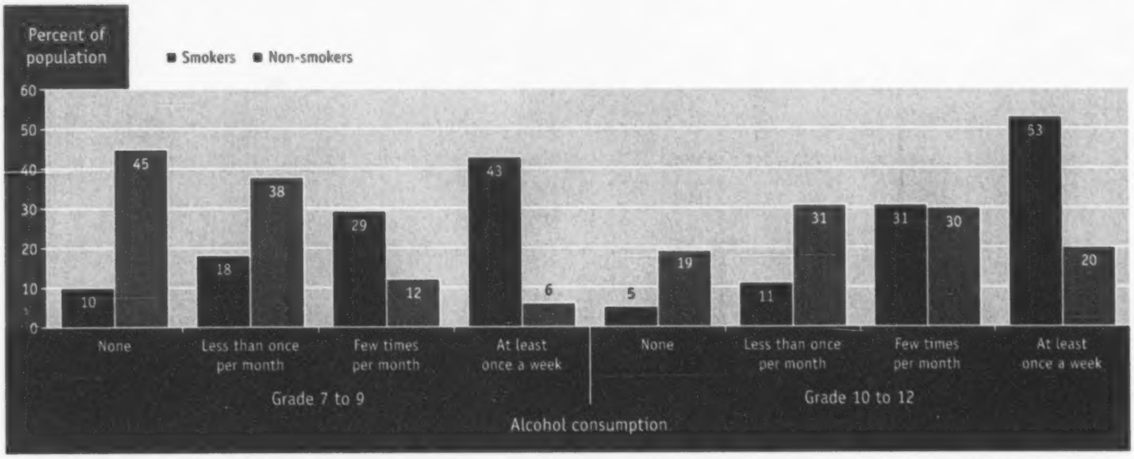
According to the 2006 APS, 88% of off-reserve First Nation (86%), Métis (89%) and Inuit (79%) young adults, aged 20 to 34 years, had consumed alcohol in the previous 12 months and 65% had consumed it regularly (61% of off-reserve First Nation, 67% of Métis and 57% of Inuit).[308] Overall, more than one-third (35%) of off-reserve First Nation (37%), Métis (35%) and Inuit (53%) young adults reported heavy drinking.[308]

Regular exposure to large amounts of alcohol can interfere with adolescent brain development. This can result in memory loss and other cognitive problems.[343] Evidence also points to alcohol as an increased risk factor for chronic diseases such as high blood pressure, stroke and some types of cancer.[365, 366] Binge drinking during the teenage years may be linked to depression, anxiety and other mood disorders in adulthood.[367]

Consuming alcohol during pregnancy creates a risk of the child being born with Fetal Alcohol Spectrum Disorder (FASD).[368] The 2006–2007 MES found that of pregnant adolescent girls aged 15 to 19 years, 4.2% reported consuming alcohol during pregnancy. This proportion increased to 6.3% of pregnant young women aged 20 to 24 years and 8.8% of pregnant young women aged 25 to 29 years.[363]

Alcohol intoxication entails a variety of risks, including drinking and driving and increased likelihood of unprotected sex.[343] In 2009, 18% of drinkers aged 15 to 29 years reported experiencing at least one harmful outcome as a result of alcohol consumption in the previous year, with the highest percentage (29%) being among adolescent girls aged 15 to 19 years.[369] These

Figure 3.25 Alcohol consumption by smoking status, students Grades 7 to 9 and Grades 10 to 12, Canada excluding territories, 2009[358]



Source: Public Health Agency of Canada using data from Youth Smoking Survey, Health Canada.

outcomes included harmful effects on physical health, friendships and social life, financial position, home life or marriage, and work, studies or employment opportunities. They were also associated with legal and housing problems and learning difficulties.[364] Most physical injuries sustained while drinking were unintentional. Violence-related injuries were more common among male youth (23%), while female youth were more likely to experience injuries related to self-harm (14%).[370]

Male drivers have a greater proportion of automobile collisions involving alcohol or drugs. In 2007, 41% of all collisions involving alcohol or drugs involved young male drivers aged 16 to 19 years (10%) and 20 to 29 years (31%).[100] Adolescent girls and young women together, accounted for 10% of all collisions involving alcohol or drugs.[100]

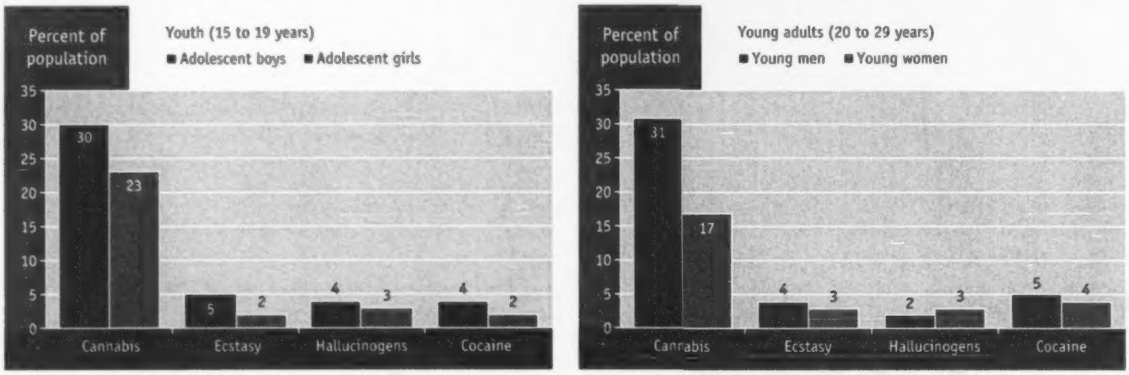
Data from the 2008-2009 YSS indicated that alcohol consumption was more prevalent among students who smoked. Among current smokers, 90% of those in Grades 7 to 9 and 95% of those in Grades 10 to 12 had also consumed alcohol in the previous 12 months, compared to 54% and 81% of those in each group who did not smoke (see Figure 3.25).[358] Heavy drinking (at least once per week) in the past year was also more prevalent among students who smoked (36% in Grades 7 to 9, 45% in Grades 10 to 12) than among those who did not smoke (8% in Grades 7 to 9, 16% in Grades 10 to 12).[358]

Drug use

In 2009, the most commonly used illicit drug by youth (aged 15 to 19 years) and young adults was cannabis. More than one-quarter (27%) of youth reported that they had used cannabis in the previous 12 months – a decrease from 38% five years earlier.[369, 371] More adolescent boys (30%) than adolescent girls (23%) reported using cannabis and 30% of those who had used it had tried it by age 16.[369] As with youth, past-year cannabis use among young adults decreased between 2004 and 2009 from 31% to 24% and a larger proportion of young men (31%) than young women (17%) had used cannabis.[369, 371]

The rates of cannabis use are higher among youth smokers (74%) compared to youth non-smokers (24%).[369] Conversely, living with both parents and having good trust and communication with them have both been identified as protective factors against cannabis use, as is high academic achievement.[45]

Figure 3.26 Illicit drug use by sex, youth and young adults, Canada excluding territories, 2009[369]



Source: Public Health Agency of Canada using data from Canadian Alcohol and Drug Use Monitoring Survey, Health Canada.

Other than cannabis, the illicit drugs most commonly used by youth aged 15 to 19 years and young adults in 2009 were ecstasy (4% of youth and 3% of young adults), hallucinogens (4% of youth and 2% of young adults) and cocaine (3% for youth and 5% for young adults) (see Figure 3.26).[369]

Drug use is a particular problem among street-involved youth and 94% of those between the ages of 15 and 24 years reported non-injection drug use (most commonly cannabis) in 2006. More than one in five (23%) in the same age range reported injection drug use in their lifetime – most commonly cocaine (29%) and morphine (28%).[320] Overall, street-involved youth who used injection drugs were more likely to exhibit high-risk sexual activity than street-involved youth who did not use injection drugs. They were also more likely to have contracted an STI, to have had unwanted or obligatory sex, to have traded sex, and, on average, to have had a higher number of sexual partners in the preceding three months. Sharing injection equipment contributes to the high rate of hepatitis C virus infection among people who use injection drugs, which is seven times higher than the rate among street-involved youth who have never used injection drugs.[320]

The abuse of solvents, by sniffing, huffing or bagging, usually begins and is carried out in adolescence. In the 2004 Canadian Addiction Survey, 67% of those who reported using inhalants used them for the first time when between the ages of 12 and 16 years, and 13% were even younger.[372] A 2004 Toronto study found that 10% of street-involved youth had inhaled solvents within the previous month.[372, 373] Studies in the United States and Canada have shown that rates of solvent abuse are much higher (60% or more) for some First Nation and Inuit youth, particularly for those living in rural and remote communities.[372, 374, 375]

Short- and long-term effects of illicit drugs will vary. Cannabis, for example, causes an increase in heart rate and a decrease in blood pressure.[376] It can interfere with concentration, depth perception and reaction time creating potential issues while driving and studying.[376] Long-term use of cannabis can lead to respiratory distress, increased risk of lung cancer and may cause impaired memory and information processing.[376, 377] Other illicit drugs, such as cocaine, hallucinogens and ecstasy, can have extreme short-term psychiatric effects such as panic attacks, paranoia and risky or violent behaviour, or physical effects such as convulsions and increased blood pressure.[378-380] Over the long term, these substances can lead to psychosis, impaired brain function affecting memory and lung and nasal tissue damage.[378-380] The addictive properties can influence behaviours affecting performance at school and work, may lead to isolation and in extreme cases even death.[381, 382]

The Health and Well-being of Canadian Youth and Young Adults

CHAPTER 3

Summary

Overall, Canadian youth and young adults are leading healthy lives and are in a position to transition well through adolescence and young adulthood to become healthy adults. Socio-economic factors are key determinants of health and fewer young people are dropping out of school and more are pursuing post-secondary education than ever before. The majority perceive their physical and mental health to be either very good or excellent and chronic illnesses and disease are not the concern for these young people that they are for many older Canadians. However, there are a number of health issues of concern that can negatively impact their health and development as they transition into adulthood, and lead to particular health problems later in life.

Most mental illnesses which can persist throughout life begin to manifest during these years and others, such as eating disorders and intentional self-harm, are of particular concern because they are most prevalent in this age group. Rates of suicidal thoughts and actions among young Canadians are also worrying. Many of the predominantly unintentional injuries, most often due to transport incidents and falls, which account for the most deaths and thousands of hospitalizations each year among both youth and young adults, can be prevented. As individuals transition through adolescence and young adulthood they will naturally take risks. However, some young Canadians are engaging in riskier behaviours such as substance use and abuse and risky sexual behaviours – all of which can have negative impacts on their health and well-being, either through immediate or long-term outcomes. In many instances certain sub-populations such as Aboriginal, immigrant, street-involved or sexual minority youth and young adults may be more vulnerable to particular health or socio-economic issues, putting at risk their individual health and/or ability to cope with negative health outcomes and maintain a healthy lifestyle.

There is also evidence that certain factors have a positive or protective effect on the health or behaviours of youth and young adults. These include such things as positive relationships with parents and peers, academic engagement and involvement in extracurricular activities. Building on the current health status of Canadian youth and young adults and evidence of influential factors associated with health outcomes, Chapter 4 discusses how the varied factors and issues affecting the health of youth and young adults may be addressed to create the conditions to maintain and promote healthy, positive transitions.

Creating Healthy Transitions

CHAPTER 4

While most youth and young adults in Canada are healthy and transitioning effectively, some young Canadians are not faring as well. Creating conditions for healthy transitions for all youth and young adults will require Canada to address complex and interconnected factors that influence, interrupt or create obstacles to health and well-being. The successful approach will grant returns on investment in terms of lifelong health, improved quality of life and increased productivity.

This chapter examines effective, promising and/or supportive Canadian and international approaches addressing current and emerging health challenges, such as mental health and mental illness, suicide, injuries, bullying, risky sexual behaviours, healthy weights, and substance use and abuse. These approaches include efforts to build resilience; reduce stigma; prevent and manage risk; target specific populations; promote health, increase awareness and education; and develop healthy public policy and protection legislation. In this chapter, examples of best practices from interventions and well as research demonstrate what can be accomplished to create healthy transitions. While there are many examples of proven and promising actions, only some are profiled here. These examples highlight the progress that has been made as well as how to move forward in making further progress in these areas. This chapter also highlights areas where challenges remain.

Establishing supportive relationships and healthy practices during childhood positively influences the health and well-being of youth and young adults. In fact, the greatest return on investment, in terms of lifelong health and quality of life, can be realized through interventions in the earliest stages of life (see *The CPHO's Report on the State of Public Health in Canada, 2009*). While these early efforts are crucial, interventions targeted at youth and young adults cannot be underestimated. During youth and young adulthood there exist opportunities for building resilience, minimizing risks, establishing supportive relationships and defining career and income pathways.

The approach

This chapter looks at how the underlying determinants of health make important contributions to long-term health and well-being, which can interact, cumulate and cultivate across the lifecourse. While physical and social environments – home, school, work – are important, if basic needs are not met, health issues cannot be adequately addressed. For youth and young adults, meeting these basic needs requires addressing factors that many Canadians take for granted, such as having somewhere to live, having an income, a family, a social network and/or community and access to appropriate services.

An assessment of **health and socio-economic inequalities** in this population must be based on parents' income or education status as many young Canadians are likely still in school and not yet fully engaged in the labour market. The absence of an independent income and home makes the distinction between "have" and "have not" less clear than it is in other age groups. There is also some debate about what factors weigh more prominently. Some researchers point to the legacy of parents' education and income, which can persist across generations; others argue that factors attributable to social connections and social status are the key measures of inequality among youth.[383] Regardless, parental factors, such as income and education as well as social connections to both family and friends, influence health.

This chapter also looks at resilience as a factor that allows individuals to have healthy relationships and develop skills, independence and decisiveness. A broad range of factors that can evolve over time can influence resilience.[384-386] Risks and risk-taking are a part of daily life but these are often elevated during youth and young adulthood. During transition periods across the lifecourse, there are changes to roles, relationships, experiences and expectations for which specific skills and experimenting may be beneficial or harmful to health.[10] Early established healthy behaviours can potentially endure over the lifecourse and influence health outcomes.

Finally, for some of the health issues identified in Chapter 3, there are interventions or approaches that can make a difference. Examples highlighted below show that efforts are widespread. Federal and provincial/territorial governments and other jurisdictions, communities and individuals are making a difference towards improving the health of youth and young adults in Canada. As reported in Chapter 3, most young Canadians are healthy; examination of these issues therefore uses a health inequalities lens and identifies efforts that focus on reducing health gaps and gradients.

Creating supportive environments for transition

As shown in earlier chapters, a close relationship exists between the social determinants of health and the health and behavioural outcomes experienced during youth and young adulthood. Moreover, those who feel nurtured by family members or adult mentors, who feel a sense of connectedness to and/or are engaged with school, community and friends report better health and a greater sense of self-worth and are less likely to participate in unsafe behaviours.[10] The protective effects of these supportive environments are clear in responding to the issues and through the interventions profiled.

Creating strong families: the Triple P-Positive Parenting Program and Strengthening Families for the Future

Some programs that aim to strengthen the family and child-parent relationship have shown positive outcomes for youth and young adults. For example, the Triple P-Positive Parenting Program, originally from Australia, offers parents an opportunity to enhance their knowledge, skills and confidence and reduce the prevalence of behavioural and emotional problems in their children/youth (under the age of 16 years) through increasing adult interest and involvement. Many communities, including some in Canada, have adopted this program, and evaluations show that the program not only reduces behavioural problems in children and youth but also improves parenting skills and helps to manage family conflicts.[387-391] The Triple P-programs have been further developed to assist parents to promote positive skills and abilities in their teenage children to prevent more serious adolescent health-risk behaviour, and delinquent or antisocial behaviour.[392] Currently, Manitoba is piloting a Teen Triple P program. PHAC is partnering with Manitoba to apply an Equity-focussed Health Impact Assessment to the Teen Triple P program to determine the potential for specific groups within the population and equity across populations (i.e. avoidable and unfair).[393, 394]

Ontario's Strengthening Families for the Future, adapted for Ontario by the Centre for Addiction and Mental Health, targets families with younger children aged 7 to 11 years who may be at risk for substance abuse, depression, violence, delinquency and poor academic performance during adolescence. Using a whole-family approach, the program aims to reduce adolescent use of alcohol and/or drugs and behavioural problems by building family skills and connectedness. It also aims to increase youth resilience and life skills by improving family communication and effectiveness. Short-term evaluations show that the program is promising in terms of improving family functioning, parenting and children's psychosocial functioning.[395] Long-term evaluations demonstrate that the program delays the age of first alcohol experience and decreases the use of drugs during adolescence.[396, 397]

Home, living environment and family

Family characteristics (parental income, education and family status); parenting style and participation in a child's activities; parental stress as well as level of family conflict can influence child and youth development. The more connected and positive the relationship youth have with their parents and family, the less likely they are to engage in risk-taking behaviours, anti-social behaviour and delinquency or to report experiencing distress. They are also more likely to have positive social relationships, complete secondary school or pursue post-secondary education and to report good overall health.[10, 47, 53, 383] As children transition into youth and young adults, they gradually relinquish their connections to their families and increase their connections to peers.[47]

Factors such as living in low-income households can limit the ability of families to provide the necessary support for the healthy development of children and youth.[9, 10, 398] However, these direct outcomes of social, physical and economic exclusion can be mitigated through positive home and family attributes that include positive parenting.[10] Community-based programs that support families and create opportunities to overcome disadvantage by building social networks and positive parental relationships have had some success (see the textbox "Creating strong families: the Triple P-Positive Parenting Program and Strengthening Families for the Future"). Some communities are also making a difference for sub-populations such as immigrants through policies that reduce financial and systemic barriers to services associated with recreational, information and health resources.[59]

Addressing homelessness

Some youth and young adults become homeless as a result of abuse and neglect; a mental illness; inadequate income or housing; or lack of employment, parental support or income.[23] Youth who are living independently and with limited resources face many challenges. Among these are age cut-offs and eligibility criteria for income supports and social supports that are dependent on having an address.[402] Homelessness affects a broad range of people; however, almost one-third of all homeless people are aged 15 to 24 years, making it a particular concern for youth and young adults.[23, 403]

There is no single definition of **homelessness**. Rather, it is a broad term that includes a range of housing conditions: absolute homeless (living on the street or in shelters); hidden homeless (living in a car, with family/friends or in an institution); and relative homeless (living in a sub-standard shelter or at-risk of losing a shelter).[399, 400] Most definitions of homelessness include a time component (measured by length and/or frequency) that range from chronic (long-term or repeated and often associated with illness and addiction); cyclical (changing circumstances) and temporary (short-term and often associated with a trauma).[399]

As with homelessness, there is no single definition of **street-involved youth**. Generally, street-involved youth are those aged 12 to 24 years who are without any or adequate shelter or who have insecure shelter.[401] While the definition is broad, street-involved youth differ from youth in the general population as many have left the family home, dropped out of school and have experienced some form of family violence or abuse. They experience precarious living conditions, poverty, residential instability and psychological vulnerability.[23-25]

About half of the youth living on the street have been involved with the child welfare system at some point; about the same percentage were sexually and physically abused as children and left home as a result.[23] Given the many paths that lead to it, addressing homelessness is complex. As a result, many approaches exist that work with a young homeless population, three of which are discussed here: targeting street-involved youth; targeting a health-related risk factor (e.g. mental illness or a chronic condition); and initiatives that broadly address poverty and homelessness.

Focusing on at-risk and homeless youth

To be most effective, youth-based interventions should consider the broader determinants of health.[23, 400] Targeting specific issues may not address the causes of some risk behaviours and environments that impact decisions. It is also important to acknowledge that the experience of a street-involved youth differs from that of a homeless adult.[225] Street-involved youth are vulnerable to exploitation by adults and peers; are more likely to experiment and take risks; and have different coping strategies.[225] Evidence shows that programs should be delivered earlier, for example, Strengthening Families for the Future (profiled in the textbox "Creating strong families") which targets families with children.[23, 225, 395] This provides youth with residential stability and support early in their lifecourse. While evaluations and follow-up research on programs directed at street-involved youth are limited, it is known that investing in early-life programs for children and families can positively influence outcomes for youth, and therefore programs for street-involved youth that focus on education, employment and opportunities to get housing and develop life skills will also have positive outcomes.[225, 400] Such programs focus on three main areas: prevention, crisis response and integrated support for transitioning out of homelessness.

- to be effective, **prevention** initiatives should be sustained over a period of time and address key risk factors.[225] Family is a key component in evidence-based prevention practices; and supports and services that promote healthy family relationships allow youth to live at home (or in a safe environment if home is deemed unsafe).[225] Schools and learning environments can also offer a range of traditional and non-traditional approaches to learning that may keep youth from leaving school before completing high school. Some sub-populations, such as lesbian, gay, bisexual, transgendered or questioning (LGBTQ) and Aboriginal youth, are disproportionately represented among the street-involved youth population as a result of a prior history of victimization.[404] Since many street-involved youth have experienced child protection or justice services and abuse and/or have an identified mental illness, there is a window of opportunity to offer support services to children before they become at-risk youth.
- **crisis response** – shelter, food and emergency support and services – is about enacting immediate services to assist youth in overcoming immediate challenges.[225] These basic needs must be met to address long-term goals of independence, stability and addiction management.[225] Crisis response has an outreach component that is important for identifying needs, increasing access and offering appropriate services to meet specific needs (e.g. those that are culturally, LGBTQ- (lesbian, gay, bisexual, transgendered and questioning) and gender-appropriate) as well as reducing negative outcomes associated with illness, disease and addiction.[225, 404]
- to make a **transition**, steps to find adequate and affordable housing need to be facilitated to help youth and young adults exit a cycle of homeless. Difficulties in breaking the cycle may be due to barriers such as not having access to money for down payments, credit checks and discrimination.[404, 405] Support for education and training including pre-employment skills such as problem-solving, financial management, leadership training and coping strategies must also be available to help secure stability for the future.[225] Support for services that overcome barriers to accessing health and social services (such as age cut-offs) must also be available. Addiction and drug/alcohol management and mental health services and supports should be included throughout the process.[404] Finally, follow-up and long-term support is important to complete the cycle.[225] Promising programs are those that use an integrated approach to addressing homelessness among youth and young adults (see the textbox "Integrated approaches to addressing homelessness").

Addressing mental health problems and homelessness

Recovery for those who have a mental health problem can be further complicated by homelessness. Programs that address mental health problems (particularly a mental illness) and homelessness focus on rehabilitation and treatments through supported housing.[400] Two models of supported housing include:

- the treatment first model – also known as the continuum of care model – identifies individuals through outreach and follows up with referrals for shelter and treatment and ultimately permanent housing.[400, 414] The effectiveness of the treatment-first model in four communities in the United States was reviewed to determine its applicability in Canadian cities. Strengths cited included the community-driven approach and collaborative and co-ordination

Integrated approaches to addressing homelessness

Eva's Initiatives offers integrated models of transitional housing, training and mentorship to street-involved youth.[225] The goal of this organization is to collaborate with homeless and at-risk youth to help them reach their potential and lead productive, self-sufficient and healthy lives. It aims to achieve this goal by first providing safe shelters and then a range of proactive and progressive services to create long-term solutions. Eva's Phoenix (Toronto, Ontario) offers transitional housing for up to one year for 50 youth aged 16 to 24 years. It also supports 160 youth aged 16 to 29 years through pre-apprenticeship and employment programs each year.[225, 406] Eva's Phoenix partners with business, labour and the community at large to provide at-risk youth with the opportunities and mentors needed to develop life skills, build careers and live independently.[406] Training is through hands-on workshops delivered in supportive environments such as Eva's Phoenix Print Shop.[225] The 2003 evaluations found that 97% of participating youth reported that Eva's Initiatives had stabilized their lives and that they were able to leave the shelter; other outcomes included increased regular contact with family (50%), still in school or employed (60%) and improved ability to find and keep employment (78%).[406, 407]

Other organizations in Victoria (British Columbia), Calgary (Alberta), Edmonton (Alberta), Hamilton (Ontario), Ottawa (Ontario), Halifax (Nova Scotia) and St. John's (Newfoundland and Labrador) have rolled out similar programs.[408-410] Choices for Youth and the Naomi Centre both in St. John's (Newfoundland and Labrador), provide youth and young adults with safe housing, an adequate standard of living and an environment of tolerance and equity. These foster responsibility and independence, provide safety from abuse, encourage participation and build independence.[411-413]

of local services. The model showed an increase in supportive housing services and local awareness, as well as an increase in funding for long-term action plans. However, challenges in terms of length of the planning process, inflexibility, fragmentation of services and a lack of permanent housing may impede its applicability in Canada.[414]

- the housing first model focuses on providing access to housing independent of treatment.[400] New York City's Pathways to Housing project was the first to adopt this model of housing in the United States. Now in use in many urban areas, this model has shown some success in terms of housing and wellness. The program has shown a decrease in the number of homeless, the time spent in institutional settings and in community-provided housing for those with a mental illness; however, evaluations of the longer-term health outcomes (if wellness is sustained) will require more research.[415] Using the housing first model, another promising project, the Mental Health Commission of Canada's At Home/Chez-Soi is assisting over 2,200 homeless people living with a mental illness in five Canadian cities (Vancouver (British Columbia), Winnipeg (Manitoba), Toronto (Ontario), Montreal (Quebec) and Moncton (New Brunswick)). As of March 2011, over 1,800 project participants in these five cities have been offered places to live and services to assist them over the course of the programs (770 participants now have homes) or they receive the regular services available to them.[416] While it is early in this program's development, some positive initial indications are notable.

Some programs address the specific needs of a homeless population by providing culturally relevant treatment and outreach options that offer traditional as well as mainstream opportunities (e.g. see the textbox "Addressing mental health problems and addictions among the homeless: Ottawa's Wabano Centre").

Addressing mental health problems and addictions among the homeless: Ottawa's Wabano Centre

The proportion of homeless Aboriginal people in Ottawa is about 19%, of which 70% are men and a growing number are youth. Of this population about 90% are estimated to have a mental health or addiction problem.[417] To address the needs of this population, the Wabano Centre for Aboriginal Health has a mobile outreach initiative that provides culturally relevant approaches to health and wellness, including support for those who cannot or do not regularly access health care and social services.[418-420] With a team of health- and social-care professionals, the mobile unit provides services such as referrals to treatment for illness, disease and injury, housing, shelter and food banks, as well as post-treatment and after-care support.[420] The mental health outreach provides services such as crisis intervention, individual counselling, assessment, social assistance or support service, as well as referrals to treat mental or psychiatric illnesses and/or to housing or legal advocacy.[135, 418, 419] The mobile unit uses the Centre's traditional healing methods and holistic health-care approach with the aim of improving emotional, spiritual, mental and physical health.[419, 420] Evaluations showed that the Wabano Centre was a main source of referrals for care agencies; 10 of 17 respondents said they used Wabano services such as anger management, food, travel, counselling, housing and medical services. On evaluation, clients reported relying on the Wabano Centre for a range of health and social services, for staff who they could talk to, and for its healing circle, which was unique among centres.[419]

Developing broad strategies that address poverty and homelessness

Communities and organizations across all regions can partner with Canada's *Homelessness Partnering Strategy* (HPS) to develop programs that are relevant and appropriate to local needs.[421, 422] HPS supports communities to find solutions for local people who are homeless or at-risk of being homeless by:

- investing in transitional and supportive housing to help individuals while they work towards accessing longer-term housing;
- supporting community-based efforts to prevent or reduce homelessness;
- building partnerships across jurisdictions and sectors; and
- working in collaboration with a range of stakeholders.[421, 422]

Currently, HPS supports 61 designated communities.[422] These are primarily in larger urban areas that have significant problems with homelessness as well as a plan that outlines how homelessness can be addressed.[423, 424] The outreach component of the strategy supports smaller, rural and northern communities in collaboration with partners across the public and private sectors to fill in gaps in the infrastructure.[425] HPS also partners with Aboriginal groups and funds programs that address the specific needs of off-reserve homeless Aboriginal peoples in cities and rural areas.[426]

Some provinces/territories have successfully implemented broad strategies to address homelessness. For example, in 2009, Alberta implemented its broad strategy entitled *A Plan for Alberta: Ending Homelessness in 10 Years*. Moving away from managing the problem with emergency shelters, the plan has adopted a vision of eliminating homelessness in 10 years by placing individuals/families into permanent housing while also connecting them with the supports they need to maintain housing. These supports include employment opportunities, health and addiction treatment, education in household management, and family and cultural reconnection. As a result of this inter-sectoral approach and community-led action, 1,779 formerly homeless Albertans are now in permanent housing, far surpassing the target of 1,000 individuals for 2009/2010.[405, 427]

Being better able to address homelessness and/or risk factors during youth and young adulthood requires a greater understanding of who becomes homeless as well as why and how. As a society, Canada needs to be able to identify risk factors and health outcomes as well as be able to implement best practices. Developed to better understand and disseminate information about homelessness, the Homeless Individuals and Families

Information System (HIFIS) was created to help facilities (e.g. shelters) with their operation and planning while collecting comprehensive data on local-risk populations to contribute to a national information system on homelessness.[428, 429] Currently in use in half of the homeless shelters in Canada, HIFIS will allow for a greater capacity to document and service homeless people and their needs.[429]

Healthy schools

Most youth spend a significant amount of their time in a school setting. These settings can help foster academic, social and life skills that are critical to healthy transitions.[10] The more youth are engaged in school and extracurricular activities, the more likely they will succeed in their careers and have better socio-economic outcomes later in life.[53] Students who are engaged in learning are more likely to challenge themselves and set long-term career-building goals. Further, youth who report feeling safe and connected at school and during extracurricular school-related activities (team sports, clubs, etc.) are less likely to report engaging in risk-taking behaviours and more likely to have emotional well-being and a greater sense of self-worth and self-rated health.[10] Since school environments play a critical role in the current and future well-being of young Canadians, initiatives that support healthy schools, encourage engagement and foster academic success are necessary to support and sustain healthy transitions.

Schools can effectively disseminate health information (through health promotion and health education programs) because they have the opportunity to influence a broad population of youth. They can raise health issues, suggest prevention tactics and help students acquire healthy skills. The World Health Organization (WHO) and other organizations, such as the European Commission, have advocated for the introduction of health promoting initiatives in schools across their member countries. The WHO produced a set of guidelines for health promoting schools:

- school health policies, including regulations and practices that influence healthy choices such as the availability of healthy foods, smoke- and drug-free environments, equality among students and emergency-preparedness plans;
- healthy physical environments (including the built environment and its surroundings) that support indoor and outdoor activities, are safe (have regular safety audits, use sports equipment that meet standards, etc.), are conducive to learning; and use environmentally sustainable practices where possible (e.g. have quality standards for air and water);
- healthy social environments that depend on quality relationships between and among students, staff, parents and the community. Factors that can improve school relationships include levels of support, met needs, engagement and involvement of adults;
- connection with the broader community including parents and a range of external stakeholders;
- opportunities to develop personal health skills; and
- school health services that are available, accessible and relevant to all students.[430, 431]

Health promoting schools can positively influence students' knowledge of and attitudes towards a range of health and social issues.[430, 431] More directly, when health services are provided in schools, students' health improves and academic outcomes are evident.[431, 434]

In Canada, the health promoting school approach is referred to as comprehensive school health (CSH), a framework for supporting improvements in students' educational outcomes, while addressing school health in a planned, integrated and holistic way. Students attending CSH schools have been shown to have more

A **health promoting school** is one that is continually strengthening its capacity as a healthy setting for living, learning and working.[432] An effective school health program can be one of the most cost-effective investments, improving not only health but also educational outcomes.[433] School health programs are tools to prevent health risks among youth and to engage the education sector in efforts to change the educational, social, economic and political conditions that affect risk.[432, 433]

healthy eating habits, to be more active and less likely to be overweight.[435] The Joint Consortium for School Health (JCSH) is an example of a partnership between federal and provincial/territorial ministries of health and education to provide leadership and facilitate a comprehensive approach to school-based health promotion. The premise of the Consortium is simple: health and learning are interrelated. The Consortium works across jurisdictions and sectors to share information and experiences, identify best practices, leverage resources, minimize duplication, foster partnerships and conduct further research in promising areas.[436] More recently, the Consortium has also committed to including promotion of positive mental health.[437]

Systematic reviews of comprehensive school health approaches have found that mental health promotion and behaviour programs (e.g. classroom skills, emotional literacy, self-esteem) – especially those that are all encompassing, intensive and long – were effective in promoting mental health and reducing risky behaviours.[431] However, school health programs that focused on substance use and abuse were more effective at preventing behaviours if they were targeted, shorter in duration, and focused on factors such as self-esteem.[431] Generally, health promotion strategies in a whole-school approach were more effective than individual teacher-led interventions.[431] However, further evaluation is needed to assess the effectiveness of all whole-school programs and approaches rather than individual ones focused on mental health problems or substance use and abuse.[431] Programs have to be evaluated according to how well they respond to the unique communities they serve.

Efforts have been made to reduce the effects of living in low-income households by lowering the high school dropout rates and increasing access to post-secondary education for disadvantaged youth in Canada.[438] For example, the Pathways to Education program adopts a community holistic approach along four support areas: academic; social (includes group and career mentoring); financial (for transportation to schools, bursaries, etc.) and advocacy (fostering student, parent and community connections). The program's first site was in Regent Park, considered to contain the highest concentration of low incomes and school dropouts in Toronto (Ontario).[438-441] An independent evaluation found that with a 93% youth program enrolment, school dropout rates had decreased from 56% to 12% and absenteeism had decreased by 50%; the number of young people from this community attending college or university quadrupled from 20% to 80%; and teen birth rates fell by 75%.[440, 442] As a result of the success in Regent Park, Pathways to Education has been expanded to other locations – Hamilton, Ottawa, Kitchener and Kingston (all in Ontario), Montreal-Verdun (Quebec), Halifax-Spryfield (Nova Scotia) and Winnipeg (Manitoba).[440] See *The CPHO's Report on the State of Public Health in Canada, 2008* for more detail on Pathways to Education and Regent Park.[49] Further research is examining the in- and out-of-school factors that influence educational outcomes, and the extent to which the pathways program responds to the needs of at-risk youth.[441]

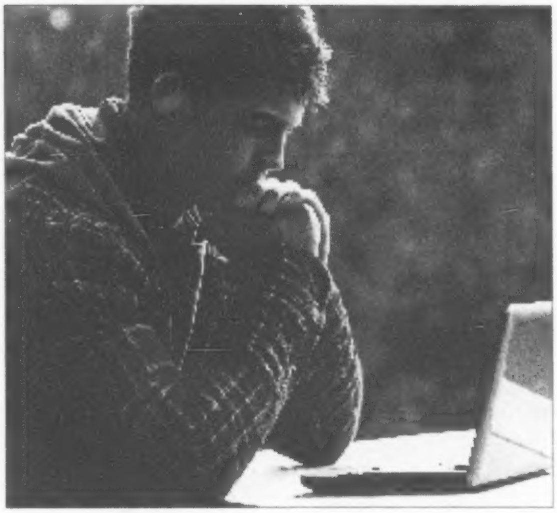
Supporting post-secondary education

The commitment of youth to stay in school has long-term benefits that are realised well into adulthood. Generally, being well-educated equates to a better job, higher income, greater health literacy, a wider understanding of the implications of unhealthy behaviour and an increased ability to navigate the health-care system – all of which lead to better health.[53] In the last three decades, there has been a notable increase in all post-secondary enrolment in Canada.[443] A number of broad programs have contributed to this success by increasing opportunities and access through financial support. Nine provinces/territories participate in the *Canada Student Loans Program*, determining eligibility, assessing needs and designating eligible educational institutions (Quebec, the Northwest Territories and Nunavut do not participate, but each offers a similar approach to assistance).[71] The program has assisted over 3.8 million students with over $28.1 billion in loans.[71] The recently enhanced and expanded *Canada Student Loans Program* and *Canada Student Grants Program* consolidates federal student assistance into a single application window. The programs' key targets are people from low- and middle-income families, with permanent disabilities (additional funds are available for those who require additional education-related support) and/or with dependents (full- and part-time) as well as those who will continue their studies part-time.[120, 122] Provinces/territories also offer additional financial aid programs.[120, 122] Further investments have expanded the *Canada Student Loans Program* and *Canada Student Grants Program* to extend eligibility and include measures such as: expanded adult basic education programming in the territories to increase northern employment opportunities, increased assistance to study abroad and tax relief on fees for skills certification (for occupations, trade and professional examination).[444]

The success of these programs includes creating better educational outcomes, measured in terms of the increased number of student opportunities (enrolment) and in program completions (graduation). However, the debt load that young Canadians have upon entering the job market is a concern. Many young adults who could not afford post-secondary education without aid face considerable debt at graduation.[208, 209] While grants and loans programs break down economic barriers to post-secondary education, other barriers impede some young Canadians from furthering their education.[383, 445] In particular, those who live in rural and remote communities may face non-economic barriers such as distance that affects access while those who have particular cultural traditions may face community perceptions that place a low value on academics.

Returning to school

While Canada has successfully reduced the high school drop out rate, some young Canadians nevertheless still do not complete this level of education. Interventions can encourage these young Canadians to return to school and/or seek training to increase their employment opportunities. Many who drop out of high school intend to – and often do – return to school later in life.[193, 194]



For example, Aboriginal youth, who are more likely to leave school earlier than the overall population, are also more likely to return to school later in life.[123] Overall, more young women than men return to school. However, not all the young men and women who return to school graduate successfully.[194] Programs that encourage young Canadians to return to school need to consider some critical factors including motivation and timing in relation to other responsibilities such as being a parent (particularly for young women). For young men, returning to school is driven by experiences in the labour market, past positive academic performance and the desire to fulfill aspirations of a different job or higher income.[194] More work needs to be done to understand the barriers to completing school and the supports needed to counteract dropping out for diverse groups of young men and women.

The Centre for Aboriginal Human Resource Development Inc. (CAHRD) is a community-driven organization located in Winnipeg (Manitoba) that has helped young Aboriginal adults obtain their high school diplomas, trades training and employment services. The centre provides financial support, transitional housing and daycare services to help with the needs of young parents who are students at one of CAHRD's programs. For each year of its 30 years of existence, the centre has helped about 1,200 students find meaningful employment.[446, 447]

Workplace

For many young Canadians, full-time work marks the end of the transitional period from youth to adulthood. In general, employment provides Canadians with the economic opportunities that can influence individual and family health. Research indicates that there is a significant gradient in disease prevalence and in years of life lost between the highest-income and each successive lower income quintile.[448, 449] While employment provides income and potentially a sense of connection – both of which are related to health – the working environment can also significantly affect physical and mental health (see the sections "Workplace initiatives" and "Preventing workplace injury" later in this chapter).

As seen in Chapters 2 and 3, entering the workplace for the first time is challenging. Economic recession, depression or otherwise strained economic conditions can further exacerbate this challenge.[72, 73] One obstacle to entering the workforce is a lack of experience and applied skills. Experience-building programs have had some success in helping young Canadians gain the insight and skills necessary for full-time work.[72, 126] Several programs to assist Canadians with job searches, placements and apprenticeships have been created such as the *Youth Employment Strategy* (YES). YES offers a range of initiatives:

- *Skills Link*, which helps young people aged 15 to 30 years who face employment barriers (high school dropouts, lone parents, Aboriginal youth, recent immigrants, youth in rural areas or with disabilities) find employment and help them gain valuable work skills;
- *Career Focus*, which helps post-secondary graduates develop skills and find work in their field of study; and
- *Summer Work Experience*, which provides wage subsidies to employers to create summer employment for secondary and post-secondary students.[72]

A recently initiated program, the *Youth Eco Internship Program*, offers young Canadians three- to twelve-month-long paid internships at not-for-profit, charitable, co-operative and/or voluntary organizations to provide on-the-job experience while simultaneously supporting environmental and community employment.[450] Job creation initiatives that encourage employers in specific fields to provide short- and long-term positions for students and recent graduates are important in developing the skills, confidence and experience of young Canadians. For example, *Young Canada Works* (YCW) helps employers create opportunities for young Canadians to learn and work in the field of heritage and cultural preservation while supporting their education. YCW partners with the Heritage Canada Foundation, Heritage Canada and the YES to offer summer employment and create internship programs for recent graduates.[126]

Healthy communities

School and work environments can influence current and long-term health. The built environment is the physical surroundings that include the buildings, parks, schools, road systems and other infrastructure. The land-use patterns, transportation systems and design features of the built environment influence the health of the population by affecting the convenience, accessibility and amount of recreational and utilitarian physical activity. Residents in communities characterized by mixed land use (i.e. with stores, schools and/or employment centres within walking distance of homes) are more active than in those neighbourhoods designed for automobile-dependent transportation. An association exists between sprawling single-use residential neighbourhoods and higher levels of obesity.[451] Walking and cycling as a means of active transportation can provide a significant portion of a person's daily physical activity as recommended by The Canadian Society for Exercise Physiology.[131] Access to recreational pathways and facilities, along with pleasing aesthetics and perceived safety, can also increase recreational physical activity. Location can also influence access and affordability of nutritious foods.[452]

The CPHO's Report on the State of Public Health in Canada, 2009 also highlighted the built environment as a key area of action that could contribute to decreasing the number of overweight and obese children.[30] Physical activity levels are significantly higher and obesity rates lower in more walkable environments.[9, 451] More children and youth are obese and overweight in disadvantaged neighbourhoods where there is less access to healthy foods and to recreational facilities and where there may be increased safety concerns.[30] Similarly, neighbourhoods in areas of high crime or that have high volume and/or fast-moving traffic discourage outdoor activity. (For more information on youth overweight and obesity, see the section "Healthy weights and healthy living" later in this chapter). The environment can also have direct and indirect influences on mental health and well-being in the form of distress, depressive symptoms and behavioural issues. Evidence shows a strong relationship between natural environment experiences and a young person's ability to learn, as well as greater overall health and well-being (including stress levels, attention-deficit hyperactivity disorder as well as cognitive functioning).[453]

Young Canadians have a role to play in developing policies and programs that impact their health and well-being and the broader social environment. For example, Communities That Care (CTC) is a system that enables communities to engage in prevention planning and implement evidence-based programs for youth aged 13 to 17 years. CTC supports decision-makers in selecting and implementing evidence-based programs that fit the needs of a specific community. Its aim is to promote healthy development and implement interventions that address problems such as substance abuse, delinquency, violence, teen pregnancy, dropping out of school, absenteeism and mental health problems. Evaluations of communities in the United States that have implemented the CTC system showed a lower level of risk factors and a decrease in crime and substance use among program participants.[454, 455] Cities in British Columbia and Ontario that have used the CTC system have seen some positive results, but further evaluation is needed to determine its potential for success in Canada.[454]

Developing resilience

Resilience is central to the issues discussed in this report, because of its role in successful transition into adulthood and in determining long-term health and well-being. Resilience is traditionally that which is needed in the face of adversity and requires positive assets and skills to address negative experiences. Building resilience is necessary for all individuals to develop positive skills, competencies and protective factors for situations that arise across the lifecourse. Promoting healthy development and positive assets in children and youth can create conditions for healthy transitions. Resilience can be negatively influenced by childhood factors such as abuse and neglect.[461]

Resilience is the ability to overcome adversity and challenge. Many dynamic and non-linear factors include individual, relationship, community and physical environment factors that can ultimately influence resilience. A more comprehensive definition of resilience is an individual's capacity to overcome adversity and navigate health and social resources; it is the capability of the individual's family, community and culture to provide these resources in meaningful ways.[456-460]

Longitudinal research on resilience: The Kauai Longitudinal Study

The Kauai Longitudinal Study (Hawaii) followed the development of at-risk individuals (due to prenatal/perinatal complications or living in poverty and/or family discord) from their birth in 1955 to their mid-life in order to explore factors influencing the transition into adulthood. The study explored a variety of biological and psychosocial risk factors, stressful life events and protective factors through to their mid-lives. By age two, two-thirds of the at-risk individuals had developed learning and behavioural problems. The remaining one-third had not developed any such problems and, by late adolescence, had developed an ability to address problems and set high but realistic goals for the future. Youth who made successful adaptations into adulthood overcame adversity because of three protective factors: individual factors such as sociability, self-awareness and empathy; family factors such as nurturing environments; and community factors including support from elders, peers, teachers, neighbours, parents of boy/girlfriends, youth leaders, ministers and church members who contributed on different levels. In particular, individuals with opportunities to establish early bonds with supportive adults had better health outcomes.[386]

Researching resilience – Canada's Resilience Research Centre

The Resilience Research Centre (RRC) at Dalhousie University (Halifax, Nova Scotia) investigates how children, youth and families deal with adversity by looking beyond individual resilience towards the social and physical environments.[465]

Through the International Resilience Project, a team of researchers created the Child and Youth Resilience Measure, a 28-item tool administered across global research sites in order to understand the unique factors associated with resilience. Canada's research sites looked at both northern (north-central Labrador) and southern (Winnipeg and Halifax) locations.[456] In the south, youth responses emphasized the importance of individual factors such as staying "grounded," developing a strong sense of self and building self-confidence.[466] In the north, participants – primarily Innu youth of northern Labrador – emphasized the importance of community in coping with adversity and suggested that building resilience is about overcoming community challenges such as a sense of isolation and substance abuse.[467] Using such information, interventions can be tailored to work on the strengths of individuals and communities while recognizing the context in which resilience can be built. Programs that seek to develop and build resilience among youth and young adults must be targeted to include local knowledge, take into account the context and needs of a specific population and address unique and available pathways to resilience.[456]

Other research projects also explore outcomes of resilience and its importance in the transition from youth to young adulthood, particularly in the context of capacity and skills for decision-making. The Stories of Transition project for example, follows up with young adults 10 years after their graduation from high school to explore the choices they made, the education and training they pursued and the jobs they took. Results from across four research sites – the province of Prince Edward Island, and the cities Halifax (Nova Scotia), Guelph (Ontario) and Calgary (Alberta) – found that there is only a small window of time when youth explore opportunities – during their late teens to mid-twenties. While the participants reported having received little career information and guidance, many reported receiving pressure to find a job and/or settle down.[468]

There are many definitions of resilience and opinions on the extent that resilience matters to health and the individual and broader factors that influence it.[462] Resilience research has expanded over the last two decades as a result of evidence showing that, while more youth are experiencing adversity (e.g. disadvantage, poverty, abuse), interventions can build resilience.[461] Longitudinal studies, such as the classic Kauai Longitudinal Study (see the textbox "Longitudinal research on resilience: The Kauai Longitudinal Study"), have made significant contributions to resilience research. These studies have identified the factors that predict resilience and are protective.[386, 461] They have illustrated how protective factors can promote adaptation, and how processes such as a range of biological, psychological and social factors can, over time, influence an individual's ability to cope in many ways.[461]

Resilience affects how people cope with life challenges at different life stages. This ability to cope is often influenced by a sense of self and by how an individual relates to others and manages the various parts of their life.[384] Resilience can be cultivated by building relationships, successful problem-solving and being independent and decisive.[384, 385] For most young Canadians, resilience is born from what resilience researcher A.S. Masten calls "the magic of ordinary everyday" found within individuals, their families, their relationships and their communities.[385] Of concern are those who do not have the basic protective systems in place (e.g. social support) and who are unable to overcome adversity to deal with mental and emotional trauma and interruptions to development; become self-confident and gain self-respect; set realistic goals and engage in problem-solving to survive, thrive and build supportive and collaborative relationships.[463]

The most effective programs are those that focus on building resilience in young children so that it will grow with them across the lifecourse.[384] More research is needed on how parents, teachers and front-line workers can foster resilience in children and youth, as well as how resilience can be developed, protected, restored, facilitated and nurtured.[464] While most young Canadians are healthy, assumptions about homogeneity across populations overlook the diversity among youth and young adults and ignore lenses of gender, culture, sexuality, and race. Resilience research is ongoing in Canada and internationally, for example, with the work of Canada's Resilience Research Centre (see the textbox "Researching resilience – Canada's Resilience Research Centre").

There are clear differences in how resilience develops in adolescent boys and girls. For adolescent boys, traditional notions of the "boy code" have been built upon courage, strength, shame and low emotional attachment. These often mask genuine resilience and can interfere with building healthy relationships and better outcomes for mental health and well-being.[469, 470] For most adolescent boys, being strong is often achieved at the cost of building relationships with others. Building resilience in adolescent boys can include developing opportunities to build long-term and trust-based friendships (these types of friendships are found more often among girls); developing platonic friendships with girls (as girls often play more empathetic roles and allow more open emotional expression); learning to express a range of emotions; and having strong mentors, particularly among male family members.[469] Resilience can be one of the factors that contributes to gaps between adolescent boys and girls in their school work and their decision to stay in school, which affects their health and well-being in the long-term.[469]

Researching protective factors and resilience in adolescent girls

Drawing on data from the National Longitudinal Study of Adolescent Health, the United States Department of Justice found that many adolescent girls who participated in delinquent behaviours had histories that included physical and sexual assault, neglect and neighbourhood disadvantage.[471] However, it is important to note that these delinquent behaviours are not limited to adolescent girls who are considered at greater risk. The study showed that the presence of a caring adult, success at and connectedness to school, and community factors could be protective and preventive. However, these protective factors were often not strong enough to overcome the impact of some individual histories (such as those that involve assault).[471] Canadian research investigating risky sexual behaviours among adolescent girls aged 12 to 17 years with a history of sexual abuse found that the likelihood of engaging in negative behaviours increased with the severity of the previous sexual abuse.[472] Interventions for early identification and clinical interventions have shown promise in fostering coping and decision-making skills; however, further research on effectiveness studies is needed to develop resilience among at-risk adolescent girls.[471]

During adolescence, many girls face a decrease in self-esteem and self-confidence. Compared to adolescent boys, adolescent girls are more likely to develop pessimistic views of self and society, expect future failure based on experience and engage in self-blame and self-criticism. As a result, adolescent girls are more likely to become depressed, have a poor self-image and begin to lose authentic relationships and relational intelligence.[470] However, compared to adolescent boys, adolescent girls are more likely to find support among social networks and opportunities to express emotion. Building positive skills, assets and relationships in girls involves education and skills training so that they learn to understand issues in a broader social context (outside of self), identify and know where to seek support, and oppose and replace negative forces. Developing resilience among adolescent girls develops the courage to resist disempowerment.[470]

Similarly, resilience for LGBTQ youth involves encouraging the development of resilience within the context of family, school and community.[249] Expected to conform to heterosexual and gender norms around individual development and socialization, sexual- and gender-minority youth are at increased risk for isolation, stigmatization and lower resilience. Building resilience in marginalized youth focuses on creating assets that enable individuals to address adversity with self confidence, rise above discrimination and bullying and engage with broad society to build supportive and collaborative relationships.[21] The Institute for Sexual Minority Studies and Services at the University of Alberta (Edmonton, Alberta) is conducting research on assets needed to grow into resilience. It uses research findings to develop and deliver two promising youth programs: the Youth Intervention and Community Outreach Worker program which provides one-to-one and social supports for Edmonton area youth year-round, and Camp fYrefly, a national leadership camp for sexual minority and gender-variant youth.[20] Both programs emphasize an arts-informed, community-based approach to education to help youth focus on building and nurturing their personal resilience and leadership potential within an environment that fosters individual development, positive socialization and enhanced self-esteem.[20, 21] The goal of both programs is to help youth learn how to make significant contributions to their own lives and within their learning environments, home/group home environments and communities.[20, 473]

Addressing risky behaviours

Risks are ever present and exist in countless daily activities.[149] Taking risks is a part of life at every age, and for youth and young adults, risk-taking is integral to learning and developing. However, during transition periods, there are changes to roles, relationships, experiences and expectations for which developing skills and experimenting may be beneficial or harmful to health.[10] Early established behaviours can potentially endure over the lifecourse. Some of these behaviours can become protective factors or long-term risk factors for many chronic health conditions.[10, 386] For example, smoking – a risk factor for a number of chronic conditions – is a behaviour that 87% of Canadian adults who have smoked reported initiating in their youth (before age 20 years) (see Chapter 3 for further information).[355]

Risk-taking behaviours are complex. While behaviours are ultimately individual choices, they are influenced by the social and economic environments where individuals work, learn, live and play. When these environments are unsupportive, making healthy choices is more difficult. As a result, some individuals are more likely to engage in adverse risk-taking behaviours that may result in higher rates of illness or injury. Therefore, when addressing risky behaviours, consideration must be given to the determinants of health and conditions in which some youth and young adults are making the transition. This includes biological processes as well as social determinants and behaviours.[10] For the most part, evidence shows that among young people, risk-taking behaviours cluster together.[10, 474] For example, generally regular users of tobacco are also more likely to use alcohol and/or illicit drugs.[10, 474]

Initiatives also use education to help young Canadians see and manage risks as well as apply these skills across the lifecourse (see the SMARTRISK example in the section "Preventing unintentional injury" further in this chapter). This approach aims to educate youth about making good choices – options for lowering risk – when they are making decisions where injuries may result.[149] However, more targeted programming needs to be developed to address sub-populations that have little support (low income, low education and low social support) or poor role models. Without addressing the unique needs of these sub-populations, there is a risk that the health gaps will increase.

Evidence from a Scottish study shows that substance use and sexual risk behaviour among young people do cluster (and among males and females).[474] While these risk clusters exist, there are limited data and evaluations of interventions that address both substance use and risky sexual behaviours.[474] Reviews showed that interventions that addressed single risk behaviours were promising. For example, policy based interventions on tobacco and alcohol control and access were found to be effective approaches in addressing these specific risk behaviours.[474] Difficulties remain in finding effective interventions across risk behaviours. Interventions that addressed a range of risky behaviours through in-class social and life skills training were limited in terms of long-term positive outcomes. Interventions that targeted four key domains of risk (individual, family, school and community) showed more promise.[474] Programs such as Strengthening Families Program (Canadian version profiled in the textbox "Creating strong families" in this chapter) had some success in reducing risky substance use behaviours. Interventions that address domains of risk must consider the dynamic nature of influence, social context and social change as well as the importance of transition points to find opportunities to strengthen protective factors and minimize risk.[474] Consideration must also be given to the role of broad networking and social media on the health of today's youth and young adults. Further research is needed to identify, develop, tailor and evaluate interventions for preventing single and clustering risky behaviours, as well as address differences in risk behaviours for subpopulations and address ways to reduce marginalization and exclusion.[474]

Enhancing positive mental health and protective factors

Many childhood experiences and factors can influence the risk of mental illness and mental health problems in youth and young adulthood that, in turn, can have an impact across the lifecourse. These include deprivation, abuse and neglect, and low-birth weight as well as parents' employment status, education, mental health and parenting skills.[210, 475, 476] The Standing Senate Committee on Social Affairs, Science and Technology report *Out of the Shadows at Last: Transforming Mental Health, Mental Illness and Addictions Services in Canada* highlighted the importance of upstream efforts to promote social and emotional well-being, and where possible, to prevent mental illness and promote mental health and well-being as early as possible in the lifecourse.[477] For young children, programs that strengthen families and combine home and community interventions have been shown to be effective at improving the well-being of young parents and children by creating more supportive environments, increasing access to care and breaking down barriers to seeking help when needed.[47, 478] Workplace interventions can also enhance the well-being of parents by promoting health and addressing mental health issues. By being flexible, workplaces allow families to address health issues and encourage parents to be engaged in the lives of their children.[479] Community programs may also contribute to the development of social capital and may increase social inclusion, factors that are known determinants of mental health status.[478] Interventions that promote mental health and well-being must recognize and address the underlying socio-economic determinants of health and other factors that build resilience among children and youth (see the section "Developing resilience" earlier in this chapter).

The most effective mental health interventions, especially among at-risk populations:

- are sustainable over time;[480, 481]
- are age-appropriate, culturally and gender-sensitive;
- are multi-faceted as to target multiple components;
- start early, and focus on cognition and relationships; and
- target individuals, families and communities.[482]

This section examines:

- interventions that target youth;
- school-based mental health services;
- access to mental health services;
- promotion of mental health and mental health literacy;
- reduction of mental health stigma; and
- development of broad strategies for mental health and well-being.

Interventions targeting youth

Many mental illnesses first manifest in adolescence. Focusing interventions on youth can therefore be effective in addressing mental health issues and promoting mental well-being.[210, 478, 482] Although broad population-based programs are the more cost-effective, targeted programs are more effective among youth, particularly those focused on preventing depression.[482, 483] Programs that specifically target at-risk youth include cognitive behavioural therapy (CBT), prevention practices and school-based education interventions (see the section "School-based mental health interventions").

CBT interventions focus on building social and problem-solving skills that, over time, develop resilience and reduce the likelihood of social withdrawal and poor academic performance among at-risk youth.[478] In randomized controlled trials, CBT interventions have shown a positive impact on mental health, such as a reduction in depressive symptoms during post-therapy and follow-up intervals. Longer interventions, lasting 10 or more sessions, were most effective.[478, 484] Although international studies show that CBT can improve clinical and economic outcomes, there is limited availability of CBT in Canada and more research would be required to determine its cost relevance and effectiveness in Canada.[478, 482, 485]

Intervention programs that target depression in youth were found to significantly reduce depressive symptoms.[483] In particular, interventions were found to be more successful among girls in later adolescence and among racial minorities who had higher rates of reported depression. Overall, prevention programs that were delivered by a program-specific professional (rather than a teacher, for example), that were short (duration) and that offered a homework or take-away assignment had the greatest effects on these target youth groups.[478, 482, 483]

Alcohol, tobacco and drug use prevention programs that address gender issues were more effective than programs for both sexes.[486] For adolescent girls and young women, programs that fostered gender identity tended to offer the greatest support during transitions and developed the skills necessary to build resilience and foster healthier relationships.[486] Based on a critical analysis, the Centre for Addiction and Mental Health (CAMH) has outlined several best practice guidelines for the development of mental health promotion interventions for youth regarding substance use and abuse. Those that are specifically relevant to this age group include:

- addressing and modifying risk and protective factors that pose mental health concerns;
- intervening in many settings with a focus on schools and adopting many intervention approaches;
- focusing on skills building, empowerment, self-efficacy and individual resilience;
- training non-professionals to establish caring and trusting relationships;
- providing comprehensive support systems that focus on peer and parent-child relations and academic performance; and
- providing information and services that are culturally appropriate, equitable and holistic.[487]

School-based mental health interventions

While early interventions – such as those aimed at preschool and early school-aged children – are outside the scope of this report, the benefits of these early interventions cannot be underestimated.[477, 479] Identifying at-risk youth and young adults and providing early intervention reduces the prevalence of mental health problems later in life. Since 69% of youth and young adults diagnosed with mood or anxiety disorder reported that their symptoms first developed before the age of 15 years, schools could be effective in early identification, reducing stigma and promoting effective strategies.[210, 488] Early interventions empower and encourage social connectedness and emotional learning.[489] Schools are the places where youth interact socially and where they can be influenced over an extended period of time.[481]

School-based teams of professionals are traditionally made up of social workers, child/youth workers and teachers who all have a role to play in identifying mental health issues and assisting in accessing and navigating mental health services.[490] Given the importance of school-based programs in reaching youth, the changing composition and access of in-school support teams may become a cause for concern. Recently there has been an increased reliance on training teachers to identify mental health issues and execute in-class programs, to enhance the work of health and social-care professionals.[490]

Accessing mental health services

The Mental Health Commission of Canada (MHCC) framework for broad mental health strategy (see the section "Developing broad strategies for mental health and well-being") identifies the importance of youth and young adults having access to mental health services that are appropriate to the needs of these age groups.[226, 477] Finding the right "fit" for youth and young adults is a challenge for mental health services given the potential for substance use, addiction, sexual health problems and aggressive behaviours that co-exist with mental health issues.[226, 491]

For many youth and young adults, seeking help in a primary care facility implies illness and raises feelings of uncertainty and concern for confidentiality.[491] Typical mental health services are also generally perceived as intended for adults, and they can appear disconnected from the needs and culture of youth and young adults. With adequate resources, schools could be effective in providing some mental health services.[491, 492] Teachers and social workers are the adults most likely to witness symptoms and identify problems, and youth often confide in them. Professionals can identify behaviours and symptoms to initiate referral for the right treatment, at the right time, by the right person.[490, 493] Addressing mental health issues and integrating programs in schools can begin to address stigma, build resilience and break down barriers associated with service relevance.

As a result of age-limits and cut-offs, upon turning 18 or 19 years old, often young adults can no longer access the health and social services.[477, 494] Such a separation of services based on age may not reflect the individual's state of health or stage of maturity. Services targeted for adults may feel unknown and uncertain or culturally irrelevant.[225, 494] Ideally, services would be seamless to ensure continuity in treatment. Organizations need to look towards broad programs that are fully integrated across sectors with a systemic approach to health to address issues facing individuals as they transition between childhood and adulthood.[495] As well, co-ordination across services can ensure that age limits are consistent between the range of health, social and criminal services as well as across provinces/territories and municipalities.[494]

Interventions promoting mental health and mental health literacy

The WHO states that implementing policies that promote mental health across the population and target people with mental health problems can lead to substantial gains in mental health and improve the social and economic development of the population.[477] Mental health can be influenced by the broader determinants of health. In particular, social connectedness and healthy behaviours (e.g. eating well) can positively affect and influence an individual's overall well-being and ability to cope with stress and life changes.[477]

Promotion of mental health at work can reduce the risks of anxiety, depression and stress-related problems that are a result of increased work pressure, time constraints, job insecurity, mundane tasks, noise, and work relationships among employees and between employers and employees.[496, 497] Employees at workplaces with programs or strategies including job training, workload reduction and healthy environments generally experience better overall well-being.[497] Broad policies and strategies can be implemented to reduce and manage workplace risks by preventing negative mental health and well-being issues. Equally, job-seeking initiatives that help young unemployed individuals find work were found to create positive outcomes such as an increased ability to cope with stress and self-motivate, aside from the resulting stability of employment and support networks.[477] With federal funding, the MHCC is developing a National Standard of Canada for Psychological Health and Safety in the Workplace with the long-term goal of creating a sustainable, systematic approach to managing psychological health and safety in the workplace.[498]

Mental health literacy includes preventing mental health illness, recognizing symptoms and interventions and reducing stigma. Overall, Canadians have good mental health literacy – being knowledgeable about the prevalence of mental disorders, warning signs and being able to identify a mental disorder.[499] Nevertheless, many reported that they believe mental health problems to be rare, consider disorders such as depression and anxiety to be environmental and are less able to distinguish between schizophrenia or anxiety and depression (particularly among youth) and mistake mental health problems with other health disorders.[499] While many Canadians reported that they would recommend medical attention for those with disorders, evidence shows that individuals would prefer to self-treat or seek lay-support and lifestyle interventions, and that they would be uncomfortable revealing that they have a mental health disorder for fear of jeopardizing job security and social relationships.[499]

Mental health literacy is the knowledge and skills that enable people to access, understand and apply information for mental health. A relatively new term first introduced in Australia, it means the knowledge and beliefs about mental health disorders that aid in their recognition, management or prevention. Mental health literacy was originally built on the concept of health literacy and the capacity to access and use health information. Both concepts of health literacy and mental health literacy have evolved to also recognize the importance, complexity and interconnectivity of a range of individual and social characteristics.[493]

To further develop mental health literacy, the Canadian Alliance on Mental Illness and Mental Health (CAMIMH), has developed a *National Integrated Framework for Enhancing Mental Health Literacy in Canada*.[499] The framework established a list of expected outcomes for mental health literacy, including increased knowledge and reduced stigma and discrimination; improved systems capacity to promote and support individuals; improved mental health literacy for care providers; increased access to services and information for Aboriginal peoples regardless of region; and an increase in implementation, public engagement and support initiatives across the lifecourse.[499]

The key to successfully developing mental health literacy is the ability and capacity to understand and subsequently identify mental health problems which can result in better treatment outcomes.[499, 500] Following the Australian approach (developed by Australian National University's Centre for Mental Health Research and further sponsored by the University of Melbourne's ORYGEN Research Centre) is Mental Health First Aid (MHFA) which was adapted/implemented by the MHCC in 2010 and is now available in many communities across the Canada.[500, 501] By improving mental health literacy, the MHFA Canada program aims to provide the skills and knowledge to help people better recognize and manage mental health problems in themselves, family or a friend/colleague.[500]

Generally, the premise of mental health first aid is based on a traditional first aid approach. Help is provided until appropriate treatment is found or the crisis is resolved. Those who may be a danger to themselves are protected, and a mental health problem is prevented from developing into a more serious state. The recovery of good mental health is promoted, and comfort is provided to an individual experiencing a crisis (see the textbox "Mental Health First Aid Canada: The Jack Project example"). Evaluations have reported that MHFA increases knowledge, decreases stigma and increases helping behaviours. MHFA training increases participants' ability to recognize signs of a mental health problem and provide initial first aid support while guiding the person to appropriate professional help.[502, 503] Evaluations also found that an MHFA training course improved mental health literacy in the community and that it could be adapted broadly and across jurisdictions.[501, 504] However, evaluations of the long-term effects on the recipients of mental health first aid are limited and more research in this area would be beneficial.[503]

Mental Health First Aid Canada: The Jack Project example

The Jack Project began as a memorial fund initiative in 2010 for a first-year Queen's University student who died by suicide. The Jack Project is administered by Kids Help Phone and supported by Queen's University (Kingston, Ontario).[505] Since 2007, Queen's University has been a supporter of MHFA Canada, having three certified MHFA Instructors, and has been delivering courses to campus personnel and students. MHFA is currently in several hundred public schools as well as 41 universities and 42 colleges across Canada.

The purpose of the Jack Project is to increase the mental health literacy of those who could be called upon to administer Mental Health First Aid. It focuses on educating and counselling emerging adults aged 16 to 20 years old who are transitioning from high school to post-secondary education on mental health issues and finding the necessary help. The Jack Project aims to break down barriers of misunderstanding and stigma associated with mental health by offering a micro-site to counsel youth who are suffering through the transition. This micro-site provides information through web and mobile applications, Live Chat and instant messaging.[505] The Jack Project has also developed an outreach campaign on Mental Health First Aid that is targeting 300 high schools and 30 colleges and universities across Ontario over the next two years to increase mental health literacy among youth.[505] This MHFA outreach intends to raise awareness, educate, support and reduce stigma through educating school personnel to look out for signs of mental health problems and provide support to students.[505, 506] (See also the section "Suicide prevention and the role of social media" later in this chapter).

Interventions that reduce mental health stigma

Stigma for any reason (such as a health issue, culture, gender, sexual orientation) can affect many individuals and can occur in a variety of settings.[507] In general, stigma is the result of poor understanding of an issue, leading to prejudice and discrimination, and many individuals who have a mental illness or a mental health problem have also experienced stigma. Stigma can negatively affect an individual's ability to develop holistically, socialize, go to school, work and volunteer, and seek help and treatment.[507] There are several approaches to breaking down mental health-related stigma. Early education (focusing on primary school and then high school) and increasing awareness of mental health disorders generally challenge misconceptions about mental illness and reduce associated stigma.[507, 508] Targeting young Canadians is an effective method of teaching children and youth about mental illnesses and promoting empathy and tolerance before negative attitudes emerge. Early education interventions also have been shown to have greater benefits in reducing stigma than broad population-based initiatives.[507] Destigmatization approaches among those who are younger can carry through the lifecourse, providing opportunities to create the greatest impact across the population over time.

Stigma related to mental health issues not only has an impact on the well-being of Canadians but also acts as a barrier to seeking treatment.[509] In the Canadian Youth Mental Health and Illness Survey, 63% of respondents indicated that embarrassment, fear, negative peer response and stigma were barriers to young people seeking the help they needed.[510] Although approaches to combat stigma have had limited success, some success or promise has been found by:

- increasing education and awareness to dispel commonly held myths about mental illness among youth and young adults;
- challenging commonly held discriminatory attitudes through increased information; and
- providing a context for mental illness that makes it familiar and not unknown.[507]

Generally, providing some context to the illness, disorder or state of well-being is the most effective method of countering stigma and discrimination.[507] In 2009, MHCC launched a 10-year anti-stigma/anti-discrimination initiative called *Opening Minds*. This initiative is the largest systematic effort to reduce the stigma of mental illness in Canada, and the Commission will work with communities, stakeholders and specific at-risk groups.[509, 511] Evaluations of a number of these programs will occur in 2011. An earlier evaluation of Partners for Life, a project in Montreal (Quebec) that has since become part of *Opening Minds*, found that high-school presentations increased knowledge about depression and modified attitudes about illness and seeking help among participants.[512] Other countries, such as Australia, New Zealand, the United Kingdom and the United States, have also developed anti-stigma initiatives that share the vision of shifting attitudes and behaviours about mental health disorders and illnesses.[513]

Developing broad strategies for mental health and well-being

Broad integrated policies both inside and outside of the health sector can significantly improve overall community mental health. Hence, an integrated and inter-sectoral approach to mental health prevention and promotion is ideal. Organizations and jurisdictions have been making strides in creating frameworks for mental health. A significant advancement was the development of the European Commission's Green Paper on mental health in 2005. This set out a framework and guidelines for preventing and promoting mental health action plans for member states.[514] This led to the development of *Mental Health Promotion and Mental Disorder Prevention: A Policy for Europe*, which identifies evidence-based options for action and calls for an integrated and inter-sectoral approach to mental health initiatives.[515, 516] This includes programs and initiatives that target behaviours as well as other determinants of health.[516] Healthier communities can also contribute to good mental health through community design (e.g. green spaces, etc.) and other considerations, such as supportive networks that encourage inclusion of all members regardless of age or ability.[516] While the direct effectiveness of these policies and frameworks is often difficult to measure, they are critical to raising awareness and securing the resources necessary for delivering effective programs. A framework can co-ordinate actions across sectors and jurisdictions to ensure multi-faceted approaches.[517]

In 2009, MHCC developed a framework, *Toward Recovery and Well-Being: A Framework for a Mental Health Strategy in Canada*, to establish ground work for addressing the current and future mental health needs of all Canadians.[226] One of the areas focuses on children and youth so as to bring a lifecourse perspective to their work.[226] Similarly, a First Nation, Inuit and Métis focus will be concerned with promoting the overall mental health of Aboriginal peoples in Canada, and helping to increase knowledge and understanding of mental health with respect to cultural beliefs, social justice, ethical practices and diversity.[226, 518] As part of this work, MHCC will develop ethical guidelines on the delivery of front line mental health and addictions programming in Aboriginal communities.[226, 518]

The MHCC framework recognizes that programs and strategies will need to be adaptive and take into account family and community wellness as well as individual wellness. Community involvement and decision-making are necessary to provide effective, culturally relevant programs and a co-ordinated continuum of services.[226] Health Canada implemented the *First Nations and Inuit Mental Wellness Advisory Committee (MWAC) Strategic Action Plan* to address the mental health, mental illness and addiction needs of First Nations and Inuit in Canada by providing strategic advice on issues related to mental wellness.[519] MWAC has identified five priority goals within its action plan, including:

- supporting the development of a co-ordinated continuum of mental wellness services for and by First Nations and Inuit that includes traditional, cultural and mainstream approaches;
- disseminating and sharing knowledge about promising traditional, cultural and mainstream approaches to mental wellness;
- supporting and recognizing the community as its own best resource by acknowledging diversity of knowledge and by developing community capacity to improve mental wellness;
- enhancing the knowledge, skills, recruitment and retention of a workforce able to provide effective

and culturally safe mental wellness and allied services and supports for First Nations and Inuit; and
- clarifying and strengthening collaborative relationships between mental health, addictions and other related services and between federal, provincial/territorial and First Nations and Inuit programs and services.[519]

The Alianait Task Group developed an Inuit-specific strategy, *Alianait Inuit Mental Wellness Action Plan*, to take a broad determinants approach and facilitate collaboration and information-sharing between key organizations, provide Inuit-specific recommendations, and provide ongoing strategic advice on program development and evaluation.[519, 520] These action plans also acknowledge the need to address youth health and wellness and the importance of youth involvement in the community. The inclusion, involvement and engagement of youth in the planning of long-term mental health is fundamental.[520]

In 2005, the WHO's *Child and Adolescent Mental Health Policies and Plans* identified a number of child- and youth-specific programs that address the unique mental health concerns of this age group.[521] The Child and Youth Advisory Committee of the MHCC, in consultation with stakeholders/partners, developed *Evergreen*, a national child and youth mental health framework intended for use by governments, institutions and organizations to help in the development of mental health policies, initiatives and services (see the textbox "Evergreen: A national framework for child and youth mental health").[522] This broad, nationally scoped framework aims to help provinces/territories and non-governmental organizations create, adopt or modify their strategies, raise public awareness and disseminate information.[522] While *Evergreen* is still in its early stages, it is intended to be an "ever-evolving framework."[522, 523] Recent investments will work toward addressing child and youth mental health issues such as bullying, resilience, healthy relationships and substance abuse.[524]

In June 2011, the Government of Canada, with provinces/territories and community organizations, announced funding to promote positive mental health in children and youth. Through PHAC's *Innovation Strategy*, over

Evergreen: A national framework for child and youth mental health

The *Evergreen* framework has four strategic directions: promotion, prevention, intervention and ongoing care, and research and evaluation.[522] Strategic directions for promotion include developing mental health awareness and literacy and anti-stigma campaigns. Promotion activities will also include the development of stakeholder models and networks with *Evergreen* acting as a resource hub to disseminate information. Strategic directions for prevention will be holistic in approach to provide educational and training programming in all settings to a range of stakeholders including parents and educators.[522] Programs will range from prenatal health to mental and physical health issues. Strategic directions also include:

- enhancing the development of school-based programs that provide well-established, proven and cost-effective programs to at-risk populations;
- ensuring that youth do not experience policy, regulatory and programmatic barriers to receiving age- and culturally appropriate care and support;
- providing urgent 24/7 care, safe houses and continued electronic access; and
- providing youth-, family- and community-friendly programs that are a single-point access to addressing both mental and physical health problems as well as the social determinants (such as housing, education, etc.).[525]

Investments in effective delivery of programs, including the development of new mental health human resources, can enhance Canada's capacity to identify, diagnose and treat common child and youth mental health disorders. Strategic directions for research and evaluations are intended to support the areas of promotion, prevention and intervention to increase effectiveness and use of mental health services.[522]

$27 million will be invested in community-based education and family programs that directly promote mental health.[526] In particular, investment will focus on programs that overcome factors such as poor economic circumstances, education and living conditions, as well as living in rural and remote communities that often prevent children, youth and families from achieving optimal mental health and well-being.[526] Several identified programs specifically address factors that are also discussed in this report.

- Connecting the Dots is a community-based program (projects to take place in the Yukon, British Columbia, Manitoba) that prevents mental health and behavioural problems from emerging by reducing risk factors and strengthening protective factors during adolescence.
- Nunavut's Qaujigiartiit Health Resource Centre is researching youth mental health and wellness by documenting the experiences of northern youth that include factors such as living in a remote community, accessing community and health-care professionals and engaging parents. The resource centre also offers wellness and empowerment summer camps to local youth.
- Community Partnerships for Youth Health (Toronto, Ontario) is establishing a resource toolkit to promote mental health in schools to engage immigrant, refugee and racial minority youth.
- Creating Responsive Communities to Promote Healthy Relationships in Young Children encourages children as well as adults in British Columbia, Alberta, New Brunswick and Ontario to learn to respond effectively to bullying through a comprehensive approach that targets family, school and community.
- Handle with Care in At-Risk Communities is a training program for parents and caregivers in the Yukon, Manitoba, Ontario and Prince Edward Island on creating supportive environments for children to grow and develop.[526]

The *Innovation Strategy* requires that funded initiatives build practice-based evidence. The information gathered from these programs will contribute to the broader knowledge of mental health promotion that can be shared, adapted and implemented across many Canadian communities.

Approaches to preventing suicide

Suicide is a large but preventable public health problem.[527] Suicide is the cause of almost half of all violent deaths and represents 1.4% of the global burden of disease.[527] This burden measures only a portion of the impact; for every suicide death, there are also emotional, social and economic impacts on friends, families and communities. The effect of suicide is far reaching and impacts communities and ultimately concerns Canadians.[528] As seen in Chapter 3, certain sub-populations have higher than average rates of suicide as well as suicide ideation.[58, 240, 254, 271-275, 277, 529] Because of this, the suicide prevention interventions profiled in this report focus on examples from populations that are at-risk. The principles are, however, relevant to all youth and young adult programs.

The success of interventions that prevent suicide is hindered by a number of challenges and assumptions, such as a lack of awareness of suicide as a major public health problem, a belief that prevention is in isolation and the assumption that it is a population-specific issue. Further, suicide remains a taboo topic.[530] Broadly, some intervention approaches have been successful. Those approaches that restrict access to the more common tools for assisting suicide, such as firearms or toxic substances, have been effective in reducing suicide rates.[530, 531] However, restricting access to tools does not address the underlying problems that lead youth and young adults to suicide.[531] Media too has been attributed as playing a role in sensationalising and inciting imitation and/or encourage suicidal and self-harm actions.[528, 531] The WHO has developed guidelines for media on responsible suicide reporting.[528] The existence of some interventions has also been cited as promoting suicide through increased information. However, research shows that responsible depictions and opening dialogues can decrease suicide outcomes.[531] Some jurisdictions and organizations have developed and implemented policies to manage information and messages that may encourage suicidal behaviour.[532] The Canadian Mental Health Association have media guidelines for safe and sensitive reporting that recommend factors that reduce risk such as: use reliable sources; describe consequences; balance with positive (such as those who survived a crisis) and present alternatives, identify signs and where to seek help.[533]

Many individuals who reported having attempted suicide or having suicidal thoughts also reported having experienced a mental health problem and/or distress.[534] Interventions that prevent and treat these root causes have been successful at reducing rates of suicide and suicide ideation.[530] Addressing suicide and suicide ideation among youth and young adults is complicated, and needs to go beyond prevention practices. Periods of transition can be periods of increased vulnerability. During these times, peers, family and community play an important role in providing young people with the support they need through individual attention, family/community rituals, activities or structured experiences.[10, 123] Communities that offer physical, psychological, intellectual and spiritual resources are better equipped to support youth and young adults during the vulnerable periods of transition. However, young Canadians in communities of disadvantage – those with fewer family and community resources, high rates of substance use and abuse, violence and suicide – are less likely to have protective factors and prevention interventions and ultimately have poorer outcomes.[10, 123]

Suicide prevention among at-risk Aboriginal peoples requires a multi-faceted approach that includes raising awareness and challenging assumptions about Aboriginal youth suicide. It involves addressing the underlying factors including entrenched influences of history and colonization and broader community factors. Raising awareness involves challenging perceptions that all Aboriginal communities are unhealthy. Generalized suicide statistics create assumptions about the health and well-being of Aboriginal communities. However, evidence shows that youth suicide is not systemic within all Aboriginal communities.[58, 272] As with all Canadian communities, youth and young adults without connections to family, community and services are at greater risk.[10] In a random sample of American Indian youths, a United States study of successful functioning created a "success index" based on indicators such as good mental health, being substance-free, minimal misbehaviour, no criminal activity, good grades, positive psychosocial functioning and positive behaviour and emotions. The study found that family satisfaction was positively related to overall successful functioning. Whereas living in a dysfunctional family and/or neighbourhood and experiencing abuse were found to be inversely related to successful functioning.[535]

Higher rates of suicide among certain Aboriginal populations are linked to community factors of social exclusion and disconnection from their traditions and culture. These factors are often deeply entrenched within communities and can span generations.[58, 272, 536] Youth with a parent who attended a residential school – shown to have critically affected well-being, mental health and parenting style – are more likely to have contemplated suicide than those whose parents were not residential school survivors.[537] Addressing intergenerational effects of residential schools requires a wide range of approaches that blend traditional, western and alternative healing practices.[538] Healing programs, such as that of Resolution Health Support Program, provide mental health services as well as emotional and cultural support (dialogues, prayers and traditional healing) to former students and family members who have experienced inter-generational trauma associated with an Indian Residential School.[539] The lowest rates of suicide have been reported in communities where cultural preservation and continuity, some level of self-government, settled land claims and access to self-managed education, health and cultural services, as well as policing services have reported positive influences on overall health and well-being of communities.[58, 272, 536]

Implementing new policies is complicated by a history of unsuccessful policies, intrusive practices and the determination not to repeat past patterns.[123] Promising practices come from within those communities that are working well and building upon success. Several communities are working to provide opportunities for youth and young adults. Some Inuit communities with a history of youth and young adult suicide are now working with the Nunavut government and with non-governmental organizations to build resilience and other protective factors and raise awareness about what help is available for young at-risk Inuit (see the textbox "Suicide prevention with community programs").

Suicide prevention and the role of social media

Much media attention has focused on the connections between bullying and suicide, and individuals' reports that bullying was part of the decision to end their lives. Among marginalized sub-populations, LGBTQ youth and young adults report higher rates of suicide ideation and attempts than the overall population.[544, 545] Addressing this increased suicide risk has had limited success. However, uptake of emerging technologies, social networks and other online resources is high among youth and young adults and preliminary research in this area demonstrates that using the Internet and social media can also be a vehicle for suicide prevention (see the textbox "Social networks preventing LGBTQ suicide – It Gets Better Project").[274, 545] The effectiveness of such programs is complicated by an evolving environment, the ethics of addressing issues online and the lack of overall evaluation. Moreover, it is important to note that negative outcomes are also possible especially when social networking becomes a vehicle for additional isolation and bullying (see the section "Bullying and aggression"). More work and research is needed to understand the development of virtual communities, the levels of support and the effectiveness of programs.

Suicide prevention with community programs

The Isaksimagit Inuusirmi Katujjiqatigiit, the Embrace Life Council, developed and funded community events and created a day to "Celebrate Life" every September 10th. Celebrate Life relies on partnerships among communities and governments to develop and co-ordinate culturally relevant information, support training and raise awareness for suicide prevention.[540] In collaboration with similar initiatives, Tuktoyaktuk (Northwest Territories) participates in the international "Yellow Ribbon" campaign that allows young people to select a trusted adult, identified with a yellow card, to stay with until they are safe.[540] An evaluation of the Yellow Ribbon program in Alberta found that post-intervention there were a number of shifts in attitudes on seeking help. There was nearly a 6% increase in the number of participants indicating they would seek assistance in the future.[541] There was also a reported shift in the priority of seeking professional help when needed.[541]

Community-initiated programs such as Artcirq (Arctic Circus) gives young Inuit of Igloolik (Nunavut) the opportunity to express themselves through the arts, communicate across generations, incorporate traditional practices, promote spiritual and bodily self-expression and enhance self-esteem. A joint initiative of Isuma Productions and Cirque Eloize (originally founded to help the development of underprivileged youth training them in the circus and performing arts), Artcirq provides opportunities for Igloolik youth to interact, learn skills and express themselves. Artcirq also raises awareness about suicide in northern communities (such as Igloolik) through multimedia productions. A film initiative (following the success of Atanarjuat, the Fast Runner), uses a group of eight young people who intend to prevent suicide in this small community.[542, 543] While suicide reduction cannot be directly attributed to such a program, over the 12 years since its initiation, Artcirq has provided many opportunities for youth to creatively express themselves and to bridge and share artistic practices and experiences between northern and southern artists.[542, 543]

Social networks preventing LGBTQ suicide – It Gets Better Project

Recent developments in bullying prevention include the It Gets Better Project, which encourages communication and networking among LGBTQ youth and young adults struggling to see a future for themselves.[546] The It Gets Better Project profiles videos and stories of adults from various cultures and ranges of experiences. The videos and blogs demonstrate that there is a future for distressed youth and point to sources of help.[546]

Similarly, The Trevor Project, which originated as a television film about the struggles of a gay youth who attempted suicide, has grown to become the first twenty-four hour crisis and suicide prevention lifeline for LGBTQ youth in the United States.[547] The project works to provide online support, guidance and resources for educators and parents.[546, 547]

Broad suicide prevention strategies

Some jurisdictions have developed suicide prevention strategies that include a range of initiatives from broad to targeted activities. Countries such as Australia, Finland, Sweden and the United States have developed national suicide prevention strategies. The Australian government attributes its reduction in the rate of suicide over a 10-year period in part to its prevention strategy.[548] Australia launched the LIFE (Living is for Everyone) Framework based on the premise that all Australians have a role to play in suicide prevention; that reduction requires action across eight areas of care and support (broad population interventions, selective targeted interventions, indicated interventions, symptom identification, identifying and accessing early care and support, standard treatments, long-term support and ongoing support); and that there are safety nets provided for people moving between pre- and post-treatment and community.[548]

Some provinces/territories, such as New Brunswick and British Columbia, have broad suicide prevention strategies. New Brunswick was the first province in Canada to develop a suicide prevention strategy, since acknowledged for successfully identifying and targeting those at risk for suicide in that province.[549] New Brunswick's program builds on existing community-based resources and upon the capacity of local partners to know how best to respond to local needs.[549, 550] The New Brunswick Suicide Prevention Program has three guiding principles:

- community action – prevention is a shared responsibility, and communities as well as networks of family and friends play critical roles in support and raising awareness. Communities are involved in identifying needs and allocating resources and have the capacity to encourage participation. In essence, effective suicide prevention cannot occur without engaged communities.
- continuous education – education increases effectiveness of prevention. For example, the Applied Suicide Intervention Skills Training (ASIST) workshops, offered through LivingWorks Education, are designed to train all caregivers (formal and informal) to improve their capacity to help those at risk.[551] ASIST has delivered training to over one million caregivers in more than 10 countries for over 25 years. There have been over 15 independent evaluations that document its success in terms of numbers trained and caregivers applying skills in practice, to knowledge dissemination and skills development among community workers.[552]
- inter-agency collaboration – interdisciplinary teams of stakeholders provide a range of services from clinical to social.[550]

Canada can address suicide prevention as part of a broader wellness strategy that promotes mental health, prevents mental illness and also includes the broader determinants of health. A comprehensive and holistic approach can enable communities to allocate resources and offer support in areas where broader social determinants of health can directly impact mental health outcomes (such as housing).

Approaches should reflect cultural contexts such as traditional knowledge and practices of First Nation, Inuit and Métis communities. The *National Aboriginal Youth Suicide Prevention Strategy* has the goal of increasing resilience and protective factors and reducing risk factors for Aboriginal youth. This strategy acknowledges the impact of suicide on communities, including on other youth in the community, and the broader socio-economic factors influencing suicide in some communities.[553] An example of an initiative that uses this strategy is a project run by the National Aboriginal Health Organization, the Honouring Life Network. The network offers a website with culturally relevant information and resources on suicide prevention to help Aboriginal youth and youth workers. It also allows those working with Aboriginal youth to connect, discuss and share suicide prevention resources and strategies. Online resources that provide social and medical support for individuals by enabling culturally relevant communication and collaboration between peers, health-care professionals and individuals have shown promise, not least for those in rural or remote communities.[554-556] More work needs to done however, to better understand the challenges and outcomes of virtual networks.

Preventing unintentional injury

The majority of injuries and deaths due to injuries are preventable. Experience indicates that approaches involving a combination of the "3 'Es'" are the most efficient means of prevention: *engineering* (including the safe design of consumer products and the built environment); *enforcement* of regulation, legislation and policies; and *education* (education and behaviour changing approaches).[557] The "3 'Es'" have a role in the interventions discussed in this report:

- preventing workplace injury;
- driving safely; and
- broad injury prevention initiatives.

Preventing workplace injury

Young working adults are at greater risk than other age groups for workplace health and safety issues.[314] One-quarter of all workplace injuries are among those aged 15 to 29 years, and the majority of these are among young men.[279] Most youth and young adults injured at work are in manufacturing, construction and retail.[279] Like most injuries, workplace injuries are preventable.

Addressing workplace injuries benefits all Canadians as injuries impact individuals' lives and livelihood, as well as increase costs in terms of job and loss of time and productivity.[314] Many initiatives are in place, but more can be done to advance current workplace safety practices and initiatives.[314] Reducing the number and impact of injuries at work can be achieved through education, raising awareness, and legislation and regulations. Canada continues to investigate the well-being of young workers and promotion of healthy workplaces through research, such as the studies conducted by the Institute for Work & Health (IWH) at the University of Toronto (Ontario). The Institute works to study the prevention of work-related injury and illness, examining workplace programs, prevention policies and the health of workers.[558]

Raising awareness about the risks in the workplace is a common means of preventing injuries and promoting health. Early interventions have had some success. Programs introduced in schools to children and youth as part of the curriculum create a culture of safety for young people entering the workforce.[314] For example, British Columbia introduced workplace health and safety in the school curriculum through *Planning 10*, which targets youth in school just as they embark on summer jobs and more permanent employment. In school, educational initiatives through WorkSafeBC include a toolkit of lesson plans that support the learning outcomes of *Planning 10*. These include rights and responsibilities, causes of injury, recognizing hazards, protective equipment, occupational health practices and addressing violence in the workplace.[559]

Awareness-raising programs have also made a difference by providing information about rights and responsibilities regarding safe work environments. Occupational safety and health organizations provide information and skills training programs. Research shows that educating younger workers is more effective than older workers, as this age group is more likely to internalize the message and thus follow advice.[559] However, evidence also shows that, while information may be learned, translating that information into safer practices can be limited by the fact that young workers neither know their rights nor have the confidence to raise safety concerns with management or a worker protection organization.[560] In addition, for some sub-populations such as recent immigrants, culturally sensitive information in various languages would be necessary to ensure the uptake of the information as well empower those who may have less experience with protection of workers rights.[561]

Broad awareness campaigns have affected public perception of workplace health and safety. Many Canadians are familiar with a range of television and newspaper/magazine advertisements highlighting the importance of workplace safety.[562, 563] Workplace Safety and Insurance Board of Ontario (WSIB) has marketing campaigns that rely on graphic images to communicate the simple message: "There really are no accidents." Familiar to Ontarians since 1999 (and viewed across Canada and internationally), these advertisements educate by showing how key interventions would have changed the outcome.[564, 565] As well, print advertisements use humour by showing typical workplace scenes where people are taking exaggerated precautions.[398] The messages are intended to shock into action.[314] Research shows that exposure to sustained marketing campaigns has been found to change behaviours.[562, 563] While advertisements can be memorable and poignant, the direct contribution to prevention is difficult to measure and the message may be stronger than the actual change in behaviour that would be preventative.[314]

It is also difficult to measure the effectiveness of changes in legislation and compensation requirements. Saskatchewan was the first province to pass workplace health legislation that considered the rights of workers (as well as the safety concerns listed in earlier legislation) with its *Occupational Health Act*.[64] Soon after, the Canadian Centre for Occupational Health and Safety was created to promote health and safety in workplaces across Canada.[64] A range of legislation protects the health and safety of workers whether under federal jurisdiction (under *Canada Labour Code* for mining, transport and federal activities) or provincial/territorial jurisdiction. Health Canada's *Workplace Health and Public Safety Programme* develops healthy workplace policy, advances best practices and co-ordinates the national management of workplace hazardous materials. All these policies have, in part, contributed to the declining rates of work-related injury over time.[64] While individual or combined legislation across jurisdictions protects workers, workers themselves also have to play a role in knowing their rights and responsibilities and how to keep safe. Within Canada, employers are required to protect their employees by providing adequate training, information and supervision. Some provinces, such as British Columbia, have set provisions to ensure that employers provide necessary training and orientation to all new employees, especially those who are young and inexperienced. Despite this, the impact of efforts is limited.[314] Focus group research with new young workers found that many employees felt that communicating their concerns was dependent on the management and the culture of the work environment.[566]

Driving safely

Driving can be a high-risk activity for youth and young adults. As seen in Chapter 3, this population has high rates of fatality and injury.[100, 101] Inexperience can play a role in the risk; however, interventions such as graduated licensing have improved new driver safety by reducing their exposure to some well-established risks such as night-time driving, carrying multiple passengers, and drinking and driving.[567, 568] Research shows that crash risks increase in the first few weeks of youths receiving new and full-access licences; however, this period of reckless new freedom is short.[567] In addition, insurance companies offer financial incentives for taking drivers' education programs which have been shown to reduce injuries.[569] While speed is a concern for this age group, for discussion purposes this section focuses on addressing young Canadian drivers and driving distracted or under the influence.

Although the overall occurrence of drinking and driving has decreased over time, driving impaired (as a result of using alcohol and drugs) continues to be an issue among young Canadian drivers. Behaviour change has been most effective through the combination of regulation, enforcement, social marketing and taxation.[366] Broad awareness programs have successfully changed attitudes about sobriety and driving, and the numbers of young Canadians who drink and then drive has decreased over time (see the textbox "Raising awareness about drinking and driving").[570] More work needs to be done to ensure the messages continue to reach young at-risk Canadians. In addition, these messages need to be expanded beyond roadways to include the use of all motorized vehicles including boats, all-terrain vehicles and snowmobiles which are particular issues in rural and remote communities.

Targeted prevention programs have also contributed to preventing and reducing repeat drunk-driving offences. Alberta's Alcohol Ignition Interlocks (AII) is a prevention program that uses a breath-alcohol measurement device to prevent a driver from operating a vehicle if his/her blood alcohol concentration exceeds the specified threshold value.[575, 576] Attempts to circumvent the device are also addressed by using temperature and pressure sensors (driver identification), a running retest feature, and a data recorder (to log all driver activities).[576] In combination with licence suspension legislation, evaluations show that AII has been effective with repeat drunk drivers by creating barriers to driving under the influence. Whether short-term use of the AII can impact long-term independent decision-making regarding drinking and driving is less clear at this stage.[577]

Raising awareness about drinking and driving

MADD Canada (Mothers Against Drunk Driving)

MADD Canada (Mothers Against Drunk Driving) is a grassroots advocacy organization that is considered one of the most successful at reducing alcohol-related driving injuries and deaths. Initiated in the United States, the idea became global as it drew broad attention to victims of drunk driving.[570] MADD Canada runs national public awareness campaigns that include radio and television messages and runs a School Assembly Program. Generally, most Canadians recall and recognize the car antennae red ribbon as a campaign feature.[571] MADD Canada's School Assembly Program also works to reduce risks by raising awareness through youth appropriate (language and culture) and energetic school assemblies. Since 1994, the School Assembly Program exposes close to 1 million Grades 7 - 12 students each school year with messages of the risks associated with drugs and alcohol.[572]

arrive alive DRIVE SOBER – Canadian youth against impaired driving and Ontario Students Against Impaired Driving

For over 23 years, arrive alive DRIVE SOBER has been successfully increasing awareness about injury and death due to impaired driving while also promoting prevention strategies using typical marketing materials, public service announcements and social networking avenues.[97] arrive alive DRIVE SOBER collaborates on campaigns and education with both provincial and national groups, most notably partnering on public service announcements, iDRIVE: Road Stories and changetheconversation.ca. Most recent arrive alive DRIVE SOBER impaired driving solutions include a smartphone application to "Choose Your Ride"; the application presents alternatives such as calling a taxi or a friend or finding public transit.[573]

Canadian Youth Against Impaired Driving and Ontario Students Against Impaired Driving have been integral in reaching youth with a social norming approach via their annual conferences, regional workshops and peer mentoring for decades. Their efforts equip youth with programs and awareness to carry out locally and motivate them to be leaders in their schools and communities.[574]

An increasing problem, particularly among young Canadians, is the number who drive distracted, primarily as a result of using of a mobile device for talking, texting and other activities.[100] British Columbia, Saskatchewan, Manitoba, Ontario, Quebec, Nova Scotia, Prince Edward Island, and Newfoundland and Labrador as well as some municipalities have banned the use of hand-held cellphones while driving.[102, 578] While these laws send strong messages about the risks associated with cellphone use and driving, there is an underlying misconception that hands-free devices are safe alternatives. Reports conducted in Quebec on driving performance and cellphones – both hands-free and hand-held devices – concluded that cellphone activity negatively affects performance and increases the risk of collision. The risks are not just manipulation and management of a device – conversation itself is also a risk.[579, 580]

The American Automobile Association Foundation for Traffic Safety found that cellphones have a greater risk than other devices especially during stressful, emotional or otherwise engaging conversations.[581] Nevertheless, many other activities such as conversations, eating and grooming are also distracting.[582, 583] Other in-vehicle devices such as global positioning systems (GPS) and DVD players – present in more vehicles across Canada than ever before – are also a risk for distraction. More research is needed on collisions involving mobile devices and related technologies including who uses them and in what capacity. Also, future research will need to include information on co-existing distractions as well as time, speed and external conditions of collisions to fully understand risk associated with mobile devices and related technologies.

Broad injury prevention initiatives

Broad injury prevention initiatives include the development of standards and consumer and environmental regulations; broad social marketing, education and advertising campaigns; development of toolkits for organizations and communities; effective data collection (including national indicators and surveillance) and knowledge translation.[584] Canada has made progress in reducing injuries through a number of initiatives, particularly those related to traffic and automobiles.[585] Similarly, Canadians are protected from injuries and premature death as a result of provincial/territorial legislation on equipment use such as helmets and personal floatation devices (PFDs); associations implementing membership requirements (such as helmet use in amateur hockey leagues); and increased safety standards on equipment and its proper use. Nevertheless, young Canadians are still being injured, and many youth are reporting not using safety equipment for their activities (see Chapter 3).

While sport and recreational activity injuries are preventable, programs must be careful that injury-preventing approaches do not inadvertently decrease participation in physical activity and healthy risk taking. Injury prevention initiatives must create conditions that are both enjoyable and safe. As such, injury prevention is a priority reflected in the federal-, and provincial/territorial-strengthened *Integrated Pan-Canadian Healthy Living Strategy* and *Declaration on Prevention and Promotion.*[142] In 2011, the Government of Canada invested $5 million over two years in the *Initiative to tackle head injury risks to children and youth in sports* that supports community-based activities that empower Canadians to make safe choices in amateur sport.[143] This initiative will focus on injuries such as concussions, drowning and fractures and will build upon initiatives and practices in communities to reach children and youth where they live and play. The Government of Canada will work with non-governmental organizations to encourage safe behaviours that prevent injuries by increasing awareness and understanding of the injury risks in sports and recreational activities and high participation sports such as hockey and snow sports, cycling, swimming and other water sports.[143]

Several Organisation for Economic Co-operation and Development (OECD) countries with injury prevention initiatives in place have had some success in reducing injury rates.[584, 586] For example, Sweden has progressed from having one of the highest rates of child and youth unintentional injuries in 1950 to one of the lowest.[586-588] Based on recommendations from the WHO, Sweden's approach to injury prevention recognizes injury prevention is based on a "healthy public policy" approach. This recognizes that public health problems require the involvement of all in their solutions.[586-589] In addition, their approach requires prioritizing safety in new policy, infrastructure design and public awareness. Evaluations have attributed Sweden's success to factors such as:

- being committed to research and investments in epidemiological evidence;
- creating a comprehensive national surveillance system of injury that includes interventions and their evaluations;
- developing legislation and policies that prioritize safer environments;
- having broad-based education and awareness campaigns and risk management programs to support the "preventability" of most injuries;
- encouraging social values that recognize the importance of prevention; and
- increasing multi-sectoral involvement and a shared sense of communal responsibility.[586-590]

A co-ordinated initiative of multi-sectoral efforts, strong leadership, ongoing surveillance, research and evaluation, broad-based awareness and education as well as public support have all contributed to Sweden's success in reducing the injury rate, especially among children and youth.[586-590]

Other initiatives for injury prevention exist. Canada has surveillance practices in place to better track and understand injuries through the Canadian Hospitals Injury Reporting and Prevention Program (CHIRPP) and the National Trauma Registry, the Canadian Incidence Study of Reported Child Abuse and Neglect (CIS), and the Canadian Coroner and Medical Examiner Database (CCMED).[591-594] As well, legislation and regulations (such as safety requirements and the proper use of equipment) exist, but these elements would benefit from further co-ordination. Provinces and territories have implemented injury prevention initiatives, such as Ontario's Injury Prevention Strategy, which has four main principles: shared responsibility and leadership; evidence-based approach; integrated practice; and recognizing diversity.[141]

Broad injury prevention initiatives are not implemented in isolation. Strong leadership is necessary as these integrated initiatives involve the collaboration of many sectors, organizations, communities and individuals. National non-governmental organizations such as ThinkFirst Foundation of Canada, Safe Communities Canada, SafeKids Canada, and SMARTRISK continue to play an integral part in addressing issues concerning injuries to young Canadians (see the textbox "Learning about risks: the SMARTRISK example").[149-151, 595]

Learning about risks: the SMARTRISK example

SMARTRISK is a national organization committed to preventing injuries by helping young Canadians identify and manage risks now and in the future. The program is based on the principle that reaching Canadians with smart risk messages when they are young will help turn them into smart risk-takers for life, and that working with youth in schools where they are already gathered is the easiest and most efficient way to connect with them.[140, 596] SMARTRISK helps young people learn to take smart risks through five positive choices: buckling up, looking first, wearing the gear, getting trained and driving sober.[149, 597] To promote these messages, SMARTRISK has two educational programs for youth:

- SMARTRISK No Regrets, a peer leadership program available in high schools across Canada that trains students and teachers to run injury prevention activities and events in their schools; and
- SMARTRISK No Regrets Live, a one-hour live presentation by an injury survivor that combines a discussion and video to profile how to make smart risk choices and illustrates the results of poor choices.[596, 598]

Initial evaluations showed that students gained significant knowledge around injury prevention and that the message and mode of delivery influenced their attitudes and behaviours around injury and risk. One year after exposure to the program's messages, students reported fewer injuries requiring medical care.[596] Additional benefits have been the number of students engaging in these issues.[596] Currently, over 100 high schools across Canada (including in the Yukon, British Columbia, Alberta, Saskatchewan, Ontario, New Brunswick, Nova Scotia, Prince Edward Island, Newfoundland and Labrador) have participated in SMARTRISK No Regrets. SMARTRISK aims to expand to reach more young Canadians through social networking sites such as Facebook, YouTube and Twitter and through online training. The organization is also working with parents on talking to teens about choosing risks wisely.[598, 599]

Bullying and aggression

Bullying is a health problem that influences not only the current state of health and well-being but also long-term behaviours, health and well-being.[604, 605] As reported in Chapter 3, the prevalence of bullying and victimization is of concern. As reported in the 2005/2006 Health Behaviour in School-aged Children survey, 13-year-old Canadians ranked 20th and 27th of 39 countries in bullying and victimization respectively.[606] As a society, Canada has considerable work to do to address this problem. All Canadians can play a role in addressing bullying in a variety of settings – schools, playgrounds, workplaces and online. While media attention given to the issue has raised Canadians' awareness, more work needs to be done to address and prevent this issue.[267]

Bullying is a destructive relationship problem characterized by repeated aggression in which there is an imbalance of power between an individual who bullies and an individual who is victimized.[600, 601] Bullying can occur at home, at school, in the community and in cyber space. Bullying has three important components that include:

- aggressive behaviour that involves unwanted negative actions;
- patterned behaviour that repeats over time; and
- an imbalance of power or strength.[600, 602, 603]

Bullying is a relationship problem, and addressing bullying is about addressing relationships (see the section "Building healthy relationships").[607] As defined, a bullying relationship is marked by an imbalance of power between an individual who bullies and an individual who is victimized by bullying (and often marginalized).[600, 601] Some individuals are more vulnerable to being bullied due to factors such as race, religion, sexual orientation, gender identity, appearance (including weight) socio-economic status and disability. Bullying often further marginalizes these individuals, and the health and social outcomes of bullying can persist over time.[600] The most effective strategy to prevent bullying is to promote healthy relationships.[607] Many factors can play a role in bullying and addressing the problem requires a systemic approach that supports the individuals involved (i.e. the individual bullying others and the individual who is being victimized) as well as the larger social system including peers, educators, and parents.[607] Further, successful interventions can be implemented in many different contexts: the classroom, school, and the community.

Addressing school-based bullying

Most bullying takes place in school, and therefore many interventions are school-based.[608, 609] There is a breadth of school-based anti-bullying programs, but evaluations have reported mixed results.[607, 609] The most notable and successful of the anti-bullying interventions is the Olweus Bullying Prevention Program, developed by Dr. D. Olweus, a Norwegian psychology professor, whose landmark research and interventions are applied in Norwegian and American schools (see the textbox "The Olweus Bullying Prevention Program").[610]

Generally, whole-school approaches have become the focus of anti-bullying best practices. The whole-school approach involves the development of anti-bullying policies and initiatives that clearly outline the roles and responsibilities of staff and students and establish how bullying is handled in the school and what actions are needed to make improvements to current situations. Successful whole-school bullying prevention builds on the premise that bullying behaviour can be positively redirected through a systematic restructuring of the school's social environment.[614] Successful whole-school approaches include:

- strong teacher and adult leadership and involvement;
- clear and consistent behavioural rules and values;
- youth involvement in program development and delivery;
- multiple stakeholder involvement;
- targeting of multiple risk and protective factors; and
- focus on early and long-term intervention.[614]

Anti-bullying policies are likely to be more successful if students are involved in their schools' policies and use positive rewards and negative consequences to influence behaviour and influence peers. Students who are academically engaged and socially connected at school feel safer, experience fewer emotional and behavioural problems and have better educational outcomes.[615] In

The Olweus Bullying Prevention Program

The Olweus Bullying Prevention Program is a system-wide approach that involves four component levels: individual, classroom, school and community.[611, 612] Various activities occur across levels, such as increasing student supervision in schools/classrooms, establishing school-wide rules and policies, training staff to better identify signs of bullying, involving students and parents across programs, and developing partnerships and broad awareness in the community.[611] The initial prevention program involved 2,500 Norwegian students from 42 schools over two-and-a-half years. Students reported a 50% decrease in bullying of others and of being bullied, reductions in anti-social behaviours and improvements in classroom social environments. By 2001, elementary and lower secondary schools throughout Norway had implemented the Olweus Bullying Prevention Program.[610] In the United States, three case study schools, in Virginia, Pennsylvania and California, have reported success with reduced reports of bullying from students and teachers/adults. Also, students reported they perceived their schools to be safer because they could see that adults were trying to stop the bullying at school.[610, 613]

contrast, students reported feeling unhappy and unsafe in schools where adults – teachers, staff and parents – are only involved in the classroom and not present where bullying may occur.[615] Interventions intended to change behaviours need to recognize that bullying behaviour develops over a long period of time and as a result of many contexts. To address this, interventions need to have longevity and apply multiple approaches and messages.[267, 607] Intervention components need to build social skills such as interpersonal skills, assertiveness, empathy and conflict resolution.[616]

Programs such as Roots of Empathy aim to reduce aggression by raising social/emotional competence and increasing empathy. Roots of Empathy is an in-class program that involves a trained instructor and neighbourhood infant and parent visiting the classroom. The students observe and describe the baby's feelings.[617]

This emotional literacy lays the foundations for safer and empathic classrooms (for more information see *The CPHO's Report on the State of Public Health in Canada, 2009*).[30, 618] Addressing bullying requires a whole-community approach and involves sharing knowledge about research, where to get help and the effective approaches. Although school-based programs are most effective, everyone has a role to play in raising awareness of the dangers and effects of bullying. A whole-community strategy is necessary to address the many facets of bullying and the impact these have on individuals across the lifecourse.[619]

Promoting Relationships and Eliminating Violence Network (PREVNet) is a national network of Canadian researchers, non-governmental organizations and governments across jurisdictions that are committed to addressing bullying.[620] Supported by Canada's National Networks of Centres of Excellence, PREVNet builds multi-sectoral partnerships to disseminate research-based resources, build awareness, change attitudes, assess the prevalence of bullying, implement and evaluate evidence-based strategies to reduce bullying, and develop policies that promote and support these activities.[620, 621] PREVNet has four strategy pillars that guide research and development:

- an education pillar focuses on changing attitudes and building commitment;
- an assessment pillar focuses on universal assessment tools to evaluate problems and impacts;

- an intervention pillar provides guidelines and tools to address bullying and victimization; and
- a policy pillar stimulates creation of policies and guidelines across jurisdictions.[621]

Workplace initiatives

Bullying is not just a school issue. As this report includes Canadians up to the age of 29, bullying also occurs in the workplace, and can affect many young Canadians who are newly employed and less experienced. Workplace bullying includes acts or verbal comments that can impact well-being and isolate an individual in the workplace.[622] Examples include spreading rumours; excluding a person or group; undermining an individual's work and removing work responsibilities; withholding work information and threatening physical and sexual abuse. Individuals who are victims of bullying have low morale and can feel angry, anxious and stressed. As a result of bullying, some workplaces suffer high absenteeism and employee turnover as well as costs related to employee assistance and low productivity and morale.[622]

Addressing workplace bullying is a challenge for employers given the differences of opinion on what constitutes workplace bullying and what employers may view as the fine line between bullying and aggressive management style. Nevertheless, bullying should be addressed in workplace health and safety plans and/or initiated through violence prevention programs. The organization (employer) and employee representatives must agree upon a definition of bullying, with examples to explain acceptable behaviours and conditions, if necessary. The definition must then apply to all employees, clients and others who have a relationship with the organization. Employers and employees should collaborate on a prevention program and agree on how preventive measures are to be developed and enforced and how incidences are to be reported and dealt with. Evidence shows that successful programs are the ones where both management and employees are committed to eradicating or reducing workplace bullying and where prevention strategies or programs are updated with regulatory requirements, as necessary.[622]

In Canada, legislation and acts that address bullying in the workplace are limited. The *Canada Labour Code* and the *Canadian Human Rights Act* outline protection for employees from some forms of harassment (particularly related to work).[80, 623] However, employers are ultimately responsible for work-related harassment and are expected to make reasonable efforts to ensure that no employee becomes a victim. As such, employers retain responsibility for preparing appropriate policies, monitoring their effectiveness, updating them as required, ensuring all employees are aware of the policies and providing anti-harassment training.[622] Some jurisdictions have legislation on workplace violence, harassment and bullying. For example, effective February 2011, Manitoba introduced changes to that province's *Workplace, Safety and Health Regulation* to protect workers from psychological harassment in the workplace. These new provisions will require all employers in that province to put in place harassment prevention policies and to educate employees on their right to a healthy workplace and their role in contributing to the health of a workplace.[624, 625] Employers are assisted in implementing policies that are suited to the environment, organization and line of work. Saskatchewan, Ontario, and Quebec have similar harassment protection legislation and policies in place.[625, 626, 627] As part of Saskatchewan's harassment prevention strategy, the province has developed "working well" tools to assist workers and employers to recognize and stop harassment and promote healthy and safe work environments.[627, 628]

Sexual and reproductive health issues

Sexual health is an important part of personal health, healthy living and healthy transitions. Healthy sexuality involves much more than avoiding negative outcomes, such as sexually transmitted infections (STIs) and unplanned pregnancies. Healthy sexuality involves acquiring knowledge, skills and behaviours for positive sexual and reproductive health and experiences across the lifecourse. Attitudes and ability to understand and accept sexuality affect an individual's ability to make healthy choices and respect the choices of others.[630]

Sexual health is particularly important to youth and young adults as most Canadians become sexually active during their teens and have had intercourse by the time they reach young adulthood.[219] Reported rates of notifiable STIs are higher among those aged 15 to 24

The WHO defines **sexual health** as a state of physical, mental and social well-being in relation to sexuality, requiring a positive and respectful approach to sexuality and sexual relationships as well as the possibility of having pleasurable and safe sexual experiences, free of coercion, discrimination and violence.[629]

years compared to any of the older age groups.[161-163] The key areas that positively promote sexual health and address adverse health issues for youth and young adults are discussed next:

- building healthy relationships;
- developing sexual health education;
- reducing risky sexual behaviours;
- promoting healthy reproduction; and
- using broad strategies to address sexual health issues.

Building healthy relationships

Throughout this chapter, the premise is that healthy relationships - with parents, other adults and mentors as well as those with peers and partners - help build resilience and reduce risks for a variety of negative health outcomes. The topic of healthy relationships was identified by the Toronto Teen Survey respondents as one of three sexual health topics that they wanted to learn more about (the others were human immunodeficiency virus [HIV] and acquired immunodeficiency syndrome [AIDS] and sexual pleasure).[631] Building relationships is important for this age group because it marks a transition– young Canadians become more involved with peers, initiate sexual relationships and may become parents themselves. As a result, it is important for all youth to develop the skills, knowledge and attitudes to facilitate the development of respectful, healthy and supportive relationships in adolescence.

Dating relationships are particularly important for the transition into adulthood. During adolescence, individuals will experience and experiment with new behaviours that will bring a range of outcomes.[632] This is a time when individuals can be most vulnerable and can intentionally or unintentionally commit acts that jeopardize healthy relationships. These acts can range from subtle to violent, can be perceived as signs of commitment and love, and are related to a number of factors including control; however, the outcomes can be negative and long-lasting.[632, 633] Although it can occur at any age, youth and young adults may be at higher risk for dating violence.[253] Most victims of police-reported dating violence are female.[253] Developing programs that help youth to develop skills for building healthy relationships and creating conditions of equality are necessary to support youth transition into young adults.[632] Healthy relationships can challenge traditional gender roles, look towards balancing power in relationships and supporting gender equity.

Interventions that prevent violence and promote healthy relationships should be delivered as early as possible. Early promotion of interventions - at home, school and community - can encourage children and youth to value relationships and understand the importance of respect, equality and harmony within all relationships.[634] Programs such as Roots of Empathy (mentioned in the section "Bullying and aggression") teach youth to be empathetic towards others so as to understand the impact of their behaviours and actions.[617, 635] As well, systematic reviews have reported that programs that target those at risk, such as those with a history of childhood maltreatment, also show promise in reducing relationship violence (see the textbox "Preventing dating violence: Youth Relationships Project").[636-638]

Dating violence involves any behaviour that hinders the development of the other person by compromising his/her physical, emotional or sexual integrity. Violence in dating relationships can be emotional, physical or sexual.[632]

Successful interventions involve many players. Communities play an important role in integrating and collaborating with schools offering interventions. Collaboration reduces overlap in programs, increases the scope to identify those who are in volatile relationships and addresses the issues from several perspectives. Interventions in schools reach a greater number of youth and can involve small- to medium-sized discussion-based

Preventing dating violence: Youth Relationships Project

The Youth Relationships Project (YRP) is a study of an intervention that targets at-risk youth to help them develop healthy, non-abusive relationships with their current and future dating partners. This Ontario-based project targets youth with a history of family disruption and violence. These youth are at greatest risk of becoming either victims or perpetrators of violence. This project is based on the premise that future victimization and violent offences can be reduced when well-planned alternative sources of information and experiences are provided to at-risk youth.[636] The study component of the project assigned 400 youths (aged 14 to 16 years) from child protection services either to the intervention (YRP) or to a control condition (standard services). Those in the intervention groups were placed in small, co-ed groups that met for two-hour sessions over 18 weeks. The meetings were meant to increase understanding and awareness of gender-based violence and develop skills and social actions that encourage responsibility, communication and community participation.[636] Evaluations showed that, over time, participants reported a significant reduction in perpetration of physical and emotional abuse and of victimization compared to those in the control group. Participants also reported a decrease in interpersonal hostility and trauma symptoms compared to control participants. Although the evaluation relied on self-reported information to measure distress and abusive behaviour, the YRP demonstrated changes in violent behaviours among at-risk youth and has led the way for the developing of other successful programs such as the Fourth R (see the textbox "Building healthy relationships: The Fourth R").[637, 638] More high-quality research is needed to confirm these results.

and role-playing programs. To have promise, programs need to address a range of individual experiences and consider gender differences, culture, race and sexual orientation. Those interventions that are successful at preventing dating violence are those that provide the tools to ensure the safety of victims and potential victims and that address violence in a broader context of equality, rights and responsibility (see the textbox "Building healthy relationships: The Fourth R").[638, 639]

Developing sexual health and education

Sexual health education is an integral part of a public health education. Comprehensive sexual health education increases the knowledge, understanding, personal insight, motivation and skills needed to achieve sexual health.[640] To be effective, sexual health education should be relevant and sensitive to the needs, experiences and circumstances of individuals, communities and populations.[22] Since there is a wide definition of sexual health and different perceptions of sexual health, the *Canadian Guidelines for Sexual Health Education* state that educational programs are most effective when broad in scope to help individuals achieve positive outcomes (e.g. respect for self and others, self-esteem, non-exploitive sexual relations and making informed reproductive choices) and avoid negative outcomes (e.g. STIs and HIV, sexual coercion, unplanned pregnancies, etc.).[22]

As mentioned earlier, school-based programs are important vehicles for sexual health information because schools are in contact with most young Canadians regularly and can formally integrate information into the curriculum. Apart from providing overall information about sexual health, comprehensive sexual health education programs play an important role in preventing STIs and reducing abusive relationships.

Research shows that the more children and youth learn about sexual health, the more likely they are to postpone sexual activity and/or engage in safer sexual practices (such as using condoms).[644] Evidence also shows that, over the long term, school-based interventions can be cost-effective especially considering the high economic and social impact of negative sexual health outcomes such as HIV and AIDS, other STIs and unplanned pregnancies.[644] Initiatives that result in small behavioural changes may result in community and social cost savings. For example, negative economic and social outcomes for unplanned teen pregnancies may disproportionately impact young women and their families.[339, 645]

Building healthy relationships: The Fourth R

Developed in Ontario, the Fourth R is a comprehensive school-based intervention to address violence, substance use, and unsafe sex.[641, 642] The Fourth R program is based on the premise that "relationship skills" coincide with "three Rs" of school lessons (Reading, 'Riting and 'Rithmetic). The program involves a 21-lesson skills-based program and aligns with requirements for Grade 9 Health and Physical Education in the Ontario public school curriculum. With three main units, the Fourth R curriculum focuses on healthy and non-violent attitudes including personal safety and injury prevention; healthy growth and sexuality; and substance use and abuse.[641]

Evaluation of this intervention showed that, compared to students in control schools (who had participated in regular health class lessons), program participants showed gains in knowledge, skills and attitudes.[643] Program participants also had lower reported dating violence two years following the Grade 9 program.[641] The Fourth R has since been expanded and has been implemented in more than 800 Ontario schools and has been adapted in 9 other provinces across Canada.[643]

Nevertheless, for the most part, school-based sexual health education has had limited success. Barriers to effective school-based sexual health education programs include allotted time or teaching materials; some level of community resistance; and some teachers' reported uneasiness with the topic.[640] As well, greater co-ordination is required across the community and across jurisdictions to ensure that sexual health education is available, accessible and meets diverse needs.[22]

Sexual health education programs should also address the diversity among students in order to meet a range of needs and perspectives. The Toronto Teen Survey found that African, Black and Caribbean survey participants were less likely to access and seek out information about sex.[631, 646] In addition, youth from certain cultural backgrounds face additional barriers (including practices considered culturally acceptable and unacceptable) that prevent access to sex education that may negatively impact their sexual and reproductive health.[647, 648] A lack of information and invisibility of sexual minorities can further manifest marginalization in the broader community.

Providing information and education about sexual orientation can meet some of the needs of LGBTQ youth and young adults. Through the Toronto Teen Survey, LGBTQ youth reported that LGBTQ issues were invisible in their school sexual health education. They also reported having encountered problems accessing sexual health services.[631, 649] There is limited research focused on sexual minorities and gender-variant adolescents due in large part to a heterosexual focus of adolescent sexuality research. However, research on sexual minorities and gender-variant adolescents demonstrates the complexity of identity, behaviour, and attraction and shows that youth sexuality is complex, diverse, and heterogeneous.[337, 650] Working towards meeting the sexual education needs of youth, will also work towards minimizing stigmata to break down fears and reduce stereotypes and discrimination.[644, 651]

Programs such as the Girls Chat Project (Ontario) increase awareness about healthy body image, self-esteem, healthy sexuality and sexual violence among young women from immigrant and refugee backgrounds in high schools. Weekly at-school discussion groups for adolescent girls allow them to express themselves in a supportive environment with peers who are facing similar challenges and similar experiences.[652, 653] Information sessions for teachers, school administrators and other community practitioners are provided to discuss the many needs of these young women and how to increase their access to available services.[653, 654] The Girls Chat Project is in its seventh year of operation and currently runs out of six Ottawa high schools with over 100 young women participating weekly.[653, 654] Reviews of this project show promise in building leadership skills among young women, fostering positive relationships between school personnel and students promoting positive emotional and social integration.

Reducing risky sexual behaviours

For youth and young adults, making responsible and informed sexual choices is essential to their development and transition into adulthood. Sexual attitudes and behaviours are established early and often carry across the lifecourse.[655, 656] Some risky sexual behaviours – including early sexual activity, infrequent use of condoms and multiple and/or concurrent partners – increase the risk of STIs as well as of unplanned pregnancies.[657] Risky sexual behaviours also increase the risk of developing long-term health problems.[655, 656] The more knowledge, skills and information provided to youth and young adults, the better control individuals have over their own sexuality and choices.

For some youth, knowledge and awareness of negative sexual health outcomes may be underdeveloped.[656] A contributing reason for the recent increase in officially reported STI cases may be due to lack of awareness about these infections (see Chapter 3). Self-reported data shows that most 14- to 17-year-olds believe they are knowledgeable about sexual health; however, one-quarter of Grade 9 and 10 students who reported being sexually active also reported not using contraceptives.[658] Although broad awareness campaigns have been used to provide information about sexual health risks across the population, it is likely targeted programs are most effective among youth.[659, 660]

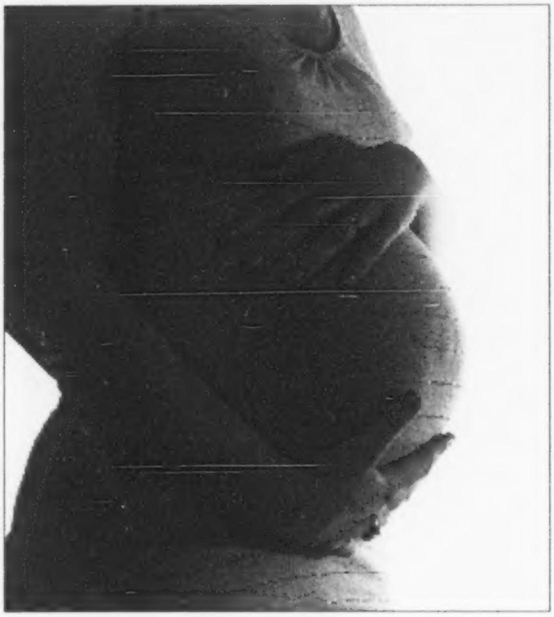
Addressing risky sexual behaviours among street-involved youth is about addressing their broader determinants of health. Generally, single-issue public health interventions cannot address the root causes of risk-taking behaviours of street-involved youth. Most street-involved youth have left home because of family problems; conflict, violence and/or abuse; and substance use and abuse. Prevention programs that identify and build on positive social networks, including home, school and community, can reduce integration into street networks.[23] Chapter 3 reports that, compared to the overall population, street-involved youth are particularly vulnerable to sexual health risks such as higher rates of STIs and greater susceptibility to hepatitis B virus (HBV) and hepatitis C virus (HCV) infections.[661-663] Although publicly funded HBV vaccination programs are school-based, many street-involved youth attend school erratically.[23, 664, 665]

Public health interventions that encourage condom use as well as fewer sexual partners are more effective at reducing the spread of STIs and blood-borne infections when enhanced via inter-sectoral collaborations.[23] As well, innovative outreach approaches may be needed to ensure that at-risk populations have access to health care and various immunization programs.[664] A systematic review of youth STI and HIV prevention programs indicates four key areas for reducing risky sexual behaviours:

- target those behaviours that youth perceive as manageable and attainable, for example, encouraging the use of condoms during sex. Research shows that these interventions reduce short- and long-term risky sexual behaviours which, in turn, can potentially reduce STIs and HIV rates.[666, 667]
- tailor programs for the target population. As a population, young Canadians are not homogeneous; what works as an intervention for one sub-population, may not work for another. Interventions must consider different racial and cultural practices, behavioural risks, developmental levels, sexual orientations and gender identities.[666, 667]
- adapt learning and cognitive theories to guide practices. Interventions that include skill-building and that increase awareness and self-efficacy have had some success in helping youth make choices, learn how to use contraception correctly, learn how to communicate with partners through role playing and learn how to articulate safer sex intentions.[667]
- address more than sexual risk. Interventions that also address broader factors – problem solving, decision-making and social skills, capacity building, and understanding influenced by gender and cultural beliefs – have successfully reduced risky sexual behaviours. Interventions that focus on building resilience and competencies are showing much promise.[667]

Promoting healthy reproduction

For some young Canadians, becoming a parent can mark the transition point into adulthood with all its responsibilities. Promoting positive reproductive health involves the delivering of programs that support positive outcomes for parents and children. For those most at risk



for poor health outcomes due to a variety of individual and broader socio-economic factors, effective programs can be in place to ensure healthy starts for children.

Canada has been successful in increasing prenatal care and improving maternal and infant health. However, maintaining this level of success requires that delivery of these practices be continued and built upon where possible. Women who reported inadequate prenatal care during their pregnancies cited reasons such as having no fixed address; having poor access to health care; lacking transportation; having child care issues; fearing repercussions for substance use and/or disease screening.[668] It is among this group that risky prenatal behaviours and circumstances may go unrecognized and unaddressed. Barriers to care can also be compounded in distressed communities where broad social problems do not offer ideal environments for supporting and managing healthy pregnancies. Providing prenatal care through community outreach has shown some success by targeting distressed communities and individuals. For example, the *Canada Prenatal Nutrition Program* currently provides support for at-risk pregnant women and their children in over 2,000 communities in Canada.[669, 670] Evaluations reported better health behaviours and outcomes for participants and their children, for example, decreased prenatal substance use, better birth outcomes and an increased in breastfeeding initiation.[669] As well, culturally- and community-relevant programs that address sexual and reproductive health are being implemented in remote communities, for example, the Maternal Child Health Program (see the textbox "The Maternal Child Health Program").[671]

The teen pregnancy rate in Canada has declined over time, and Canadians are generally becoming parents later in life.[107, 108] Teenage pregnancy is a largely preventable public health issue that is often associated with negative outcomes for both the teen parents and for their children.[645, 675] Compared to older mothers, teen mothers are more likely to experience anemia, hypertension, pre-eclampsia, renal disease and depressive disorders, and their children may have higher perinatal mortality rate, higher preterm birth rates and lower birth weights.[111] There are also long-term socio-economic risks for the teen mother and her children such as lower educational attainment, reduced employment opportunities and the lack of a contributing partner to the household income.[675] Research shows that women with high socio-economic status are more likely to complete their post-secondary education before motherhood, while those with lower socio-economic status often become mothers at a younger age and often do not acquire post-secondary education, work and marry or cohabitate with a partner prior to childbirth.[37, 676, 677] As well, women with a higher socio-economic status have greater health literacy and access to contraception and abortion.[675] Often it is those who are the most vulnerable to the pressures of motherhood that are also vulnerable to external factors influencing health such as other risky behaviours, health conditions and access to health care.[675] Public health programs can influence young parents' health and ensure that there are initiatives in place to support young parents and create healthy beginnings for their children.[675]

Many factors contribute to teen pregnancy including choice, opportunities, support and broader socio-economic factors, and preventing teen pregnancy is complex and requires a holistic and comprehensive prevention strategy. Most jurisdictions have school-based strategies that offer

The Maternal Child Health Program

The long-term goal of the Maternal Child Health (MCH) Program is to support pregnant First Nation women and families with infants and young children, who live on-reserve, to reach their full developmental and lifetime potential.[671] This is achieved by providing access to a local, integrated and effective MCH Program grounded in First Nations culture that responds to individual, family and community needs in identified First Nation communities.[672] The program supports a comprehensive approach to MCH services in First Nation communities that builds on community strengths including support from Elders, *Canada Prenatal Nutrition Program*, Fetal Alcohol Spectrum Disorder, nursing services, Home and Community Care, oral health and other community-based programs.[672] Services through the MCH program include reproductive health, screening and assessment of pregnant women and new parents to assess family needs as well as home visiting to provide follow-up, referrals, and case management as required.[672] Overall, home visitation programs, such as those applied through the Olds model in the United States, have had some success in improving health outcomes for parents and children.[673] A report of the Assembly of First Nations documented that the MCH home visits have identified and helped manage post-partum depression and enhanced mothers' support networks.[674] Home visiting also provides an opportunity to address sexual and reproductive health. In some communities, home visitors will provide reproductive health education in schools and preconception health programs among young adults to promote a healthy start to pregnancy.[674]

sexual health education and contraception.[678] While these programs have had some success, they seldom address the root causes of teen pregnancy such as socio-economic conditions, low parental educational attainment, violence and mental health conditions.[678, 679] Teen pregnancy can be an outcome of many different situations such as limited access to health care and contraception (especially in rural and remote regions), stigma (especially in smaller communities), limited knowledge about reproduction, lack of skills to properly use contraception, difficulty negotiating condom use and the pressure to have sex.[679, 680]

Among the variety of interventions designed to prevent teen pregnancy and prevent STIs, some evaluations report inconsistent results while others remain unevaluated, have not been reproduced across various populations and/or are limited in scope. Regardless of these limitations, several practices in teen pregnancy prevention have some promise:

- in-school educational programs that combine addressing teen pregnancy with preventing STIs have been effective in contributing to the decline in teen pregnancies.[678] Programs range from those that promote abstinence to those that support both abstinence and the use of contraception and condoms for sexually active teens. Efforts that address sexual risk and protective factors (as do sex and STI/HIV education programs) as well as non-sexual factors in combination are more likely to positively influence behaviours.[678] Evaluations show that adolescents who received comprehensive sex education had a lower risk of pregnancy than those who received abstinence-only or no sex education.[681]
- programs that increase knowledge and skills of parents and community members (that interact with youth) have also increased youths' knowledge and information about sexual health.[682] These programs develop skills on how to discuss issues such as contraception, sexual behaviours, building relationships and preventing STIs and pregnancies.[678]
- programs that provide access to reproductive health services for all youth and provide services that are relevant and applicable to location, age, gender, sexual orientation and culture are more effective. Programs can provide youth with the opportunity to apply what they learned about and set practical activities that are relevant to them.
  - programs that include adolescent boys and young men in initiatives and encourage open discussions about sexual health are effective.[679, 683] Too often, prevention programs do not focus on the sexual education of males and their skills with

contraception and negotiation. This issue is further complicated by the fact that traditionally young women have been less empowered to negotiate safe sex, even if they have the knowledge of the positive outcomes. Building healthy relationships may go towards addressing this issue.[679, 683, 684]

- programs that improve opportunities for youth in terms of education, career and skills development can address situations of boredom and risky behaviour, as well as address the sense of a lack of future.[679, 684]
- sexual health is part of life and sexual health programs need to reflect that issues extend beyond school and youth. Evaluations show that community-based programs involving many organizations and individuals including parents and mentoring adults have been effective.[683]

Prevention programs must consider different views and perceptions to be effective. More research is needed to understand young women's perceptions and experiences concerning early pregnancy and follow-up pregnancies, contraceptive practices and access to services.[685] As well, little is known about young men and their perspectives on women, pregnancy and their role in the family. More male-based prevention programs can help to develop skills, understanding and relationships. This can have a significant impact on reproductive health.[684]

A challenge for public health is creating a balance between prevention and positive messages related to motherhood and outcomes of pregnancy. While delaying childbearing is becoming more frequent, for some young Canadians the choice to have children younger is preferable.[684, 686, 687] For example, some cultures support earlier pregnancies and in these cases, delaying childbearing could alienate these Canadians from their culture.[684, 686, 687]

Addressing teen pregnancy is a two-fold process: interventions that focus on prevention (discussed above) and interventions that address health outcomes for young parents to provide relevant support and services for effective and positive health outcomes for parents and their children. Some teen mothers report that they saw their pregnancy as a positive alternative to the path of alcohol and drugs taken by their peers, and the direction in which they felt they were heading in their pre-pregnancy life. Some young mothers also reported that motherhood was the motivating reason to get a job or go to school.[688] Prevention programs and policy efforts can often inadvertently cite blame and individual failure by portraying early pregnancy as negative. More interventions must be put in place to support young families and prevent subsequent pregnancies without marginalizing young mothers. While evidence supports that economic and educational outcomes for teen mothers are poorer than for adolescent girls of the same age, public health has a role to play in developing healthy futures for all mothers and children.

Broad strategies to address sexual health issues

Governmental and non-governmental agencies and institutions, including the public health sector, have a role to play in promoting sexual health. Over the last two decades, much progress has been made to transfer knowledge and understanding of human sexuality through interventions; however, even with higher public profile issues such as HIV and AIDS among youth and young adults, it has become apparent that more work needs to be done to raise awareness and identify effective interventions to address sexual health issues in the future.

Canada has set guidelines and created opportunities for education, promoted sexual health research and taken action on HIV and AIDS. *Guidelines on Sexually Transmitted Infections* is a resource for clinical and public health professionals in the prevention, diagnosis, treatment and management of STIs. Experts from the fields of medicine, nursing and public health volunteer to maintain updated, evidence-based recommendations on STIs. Ongoing updates reflect emerging issues and highlight changes in STI literature.[168] Similarly, the *Canadian Guidelines for Sexual Health Education* (see the section "Developing sexual health and education") provides information on new and effective program evaluations that guide and increase the understanding among professionals working within the sexual health education and promotion field.[22]

Surveillance on notifiable diseases including STIs such as chlamydia, gonorrhea and syphilis are collected through the Canadian Notifiable Disease Surveillance System

(CNDSS).[689] Provinces and territories also have their own systems for case-management and evaluation.[689] Data are based on the results of individuals who have positive laboratory tests and have used a public health or health-care service.

The programs that are part of or align with Canada's *National Immunization Strategy* (NIS) – a comprehensive strategy to meet the current and future immunization needs of all Canadians – have had a significant impact on population health and prevented many diseases including those that can be sexually transmitted.[691, 692] While a number of vaccines have been part of routine immunization schedules for years (e.g. measles, mumps, rubella [MMR]), access and coverage for some recommended vaccines varies across the country.[693] Currently, all of Canada's provinces/territories have developed publicly funded immunization strategies for human papillomavirus (HPV) and HBV, targeting children and youth to ensure they are protected before they are at risk of exposure.[167, 694] As of 2007, girls in Grades 4 to 9 (depending on the province/territory) can receive the HPV vaccine.[167] HBV vaccination was also originally administered as a universal school-based vaccination program, but is now given to infants in their first year of life in some provinces/territories.[692, 693] School-based immunization programs give all students the chance to receive the vaccine, which generally results in higher numbers of students completing the immunization.[695]

The Pan American Health Organization (PAHO) recommends goals for member states for broad strategies to maintain sexual health. These include:

- promoting sexual health and working to eliminate barriers to sexual health;
- providing broad and comprehensive sexuality education;
- providing education, training and support to health professionals working in sexual health;
- providing access to comprehensive sexual health-care services; and
- promoting research and evaluation in sexual health and the dissemination of the knowledge.[690]

HIV and AIDS continue to be an enormous challenge around the world. While the numbers in Canada are smaller than that in other similarly developed nations, data on sexual behaviour and STIs demonstrate the potential for the spread of HIV among young Canadians.[696] The youth and young adults most at-risk are males who have unprotected sex with males and those who are street-involved, engaged in the sex trade and use drugs intravenously.[697]

The Federal Initiative to Address HIV/AIDS in Canada supports Canada-wide action while remaining responsive to global shifts in the pandemic and forging new and collaborative relationships to address emerging issues.[104] The initiative, a partnership of PHAC, Health Canada, the Canadian Institutes of Health Research (CIHR) and Correctional Service of Canada, is a primary element of the Government of Canada's comprehensive approach to HIV and AIDS.[104] It outlines Canada's commitment and contribution to the national framework for HIV and AIDS, embodied in *Leading Together: Canada Takes Action on HIV/AIDS*.[104, 170] The initiative identifies youth as one of eight key populations most affected by HIV and those requiring specific, targeted approaches.[170]

Canada actively participates in the global response to address HIV and AIDS. Through the *Global Engagement Component* of the *Federal Initiative to Address HIV/AIDS*, Canada provides policy guidance and technical support, shares health sector experience and knowledge, promotes knowledge transfer between domestic and international responses and ensures policy coherence of Canada's international HIV and AIDS activities.[169, 698] Through the *Canadian HIV Vaccine Initiative* (CHVI), Canada contributes to global efforts by working to develop a safe, effective, affordable and globally accessible HIV vaccine.[105]

Canada has committed to championing the needs and rights of people living with HIV and AIDS and those at risk; to work collaboratively with international partners; and to act towards bringing an end to the HIV and AIDS pandemic. Canada has endorsed the 10-year action plan in the United Nations General Assembly Special Session Declaration of Commitment on HIV/AIDS, through which countries agreed to work together to achieve significant targets in prevention, care, treatment and support, human rights, and research and development.[170] Canada has also endorsed the United Nations Millennium Development Goal to halt and begin to reverse the spread of HIV and AIDS by 2015.[170] Addressing HIV and AIDS is about addressing the broader determinants of health, preventing the spread of disease, providing timely effective treatment and care, and contributing to research.[170]

Healthy weights and healthy living

A growing public health problem that spans all age groups, overweight and obesity is a critical issue for youth and young adults because of the current and future adverse health outcomes. Addressing the issue of overweight and obesity is complex and requires a healthy living approach driven by health behaviours such as being physically active and eating well. Two additional topics: body image and eating disorders are relevant to this discussion of healthy weights and healthy living. While the differences in the problems and their solutions are vast, the long-term goals in addressing these issues are the same – achieving healthy bodies. Achieving a healthy weight is also complicated by the fact that some young Canadians look to achieve a perceived "ideal" body image. As well, there are those who have eating disorders. This section is about working towards a healthy balance for Canada's youth and young adults.

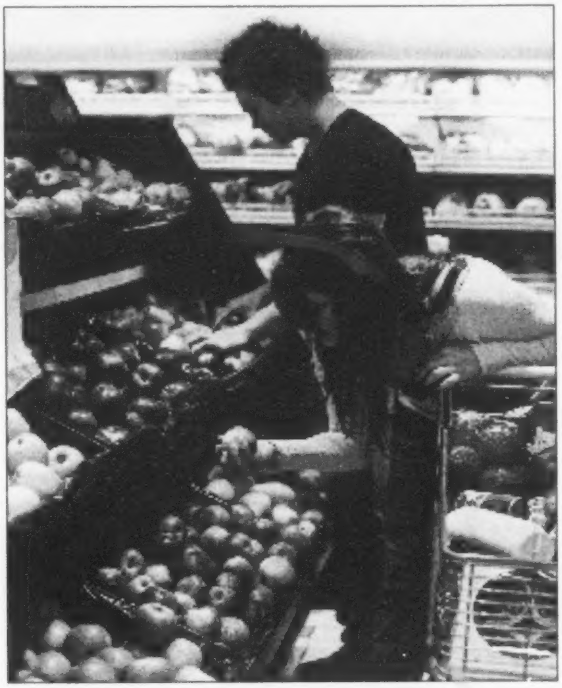
Overweight and obesity

Overweight and obesity is a major public health challenge that affects Canadians across the country and from diverse populations. Generally, those who have lower levels of daily physical activity and poor nutrition are most likely to have excess body weight and an increased risk of developing related disease and adverse health outcomes over the lifecourse.[290, 699] However, the issue is more complex than the balance of caloric intake/outtake; for example, genetic predispositions, as well as an individual's broader physical and social environments, can provide opportunities or present barriers to achieving a healthy weight.[287, 452, 700] Changes in our food environment, including larger portion sizes and the availability of a wide variety of inexpensive and processed and fast food (containing high amounts of sugars and fats), have made it more challenging to maintain a healthy weight.[297, 452] In addition, profound changes have occurred in the physical and social environments in which Canadians live, learn, work and play – from the "walkability" of neighbourhoods and the marketing of foods, to the proximity and accessibility of grocery stores, and the increase in sedentary lifestyles.

Overweight and obesity is also a risk factor for many chronic diseases, including type 2 diabetes, cancer and cardiovascular disease.[292] As described in Chapter 3, the prevalence of diabetes among Aboriginal youth and young adults is higher than that of the overall Canadian population.[304, 308] Health Canada's *Aboriginal Diabetes Initiative* (ADI) aims to reduce the prevalence of diabetes among Aboriginal people in over 600 communities. ADI supports a range of health promotion, prevention, and screening and treatment services that are community-based and culturally appropriate to Inuit and on-reserve First Nations. There is also a prevention component for Métis and for First Nation and Inuit living outside of their traditional communities.[701]

Economic and social circumstances, combined with individual practices and capacities, influence what food is available and how it is chosen.[702, 703] Compared with those living in higher income, families and individuals living in low-income households are less likely to consume the nutrients needed for proper health and well-being.[452] Studies have also linked food insecurity to the prevalence of unhealthy weights.[452, 704] Living in a low-income household can exacerbate existing food security issues caused by the already high cost of nutritious food in many northern and remote areas in which these families live. Programs such as Nutrition North Canada, which launched in April 2011, intends to make nutritious perishable food available to northern and remote communities by expanding the list of subsidized perishable foods and encouraging retailers to order and stock these items.[705]

The eating styles of parents can often influence the dietary habits of youth. Research demonstrates that youth who regularly eat with their families are less likely to be overweight as they are more likely to consume a healthier diet and have better family support, communication and relationships.[699] However, youth living in the family home are not always in a position to choose or purchase their own food. Other factors that influence family meals and eating patterns include food preparation skills, time



to prepare meals, and an understanding of information provided by sources such as food labels and *Canada's Food Guide to Healthy Eating*.[706]

Advertising unhealthy foods and beverages to youth and young adults may well be contributing to unhealthy weights.[452] An American study showed that children consumed 45% more food when exposed to food advertisements on television.[707] Adults also consumed more snack food after watching a snack food advertisement.[707] Television programming in Quebec does not allow any type of food advertising to children aged under 13 years. In other regions of Canada, regulations protect children aged under 12 years from advertisements that do not depict balanced diet and/or portray snack foods as meals.[708, 709] Nevertheless, youth and young adults are still targeted by food marketing and advertising via international satellite, cable television and the Internet.[710] Canadian researchers are looking further at the influence of television and Internet advertisements on the food choices of youth to measure the effects across Canada.[711]

Eating Well with Canada's Food Guide provides recommendations on the quality and quantity of food that promote health and reduce the risk of obesity and nutrition-related chronic diseases.[712, 713] More recently, the Government of Canada launched the *Eat Well Be Active Educational Toolkit* to help teach children, youth, and young adults about healthy eating and physical activity and making healthy choices.[714] As well, the Government of Canada has been actively engaged in increasing nutrition labelling awareness. The Nutrition Facts Education Campaign, helps Canadians understand and use the information on the Nutrition Facts tables and the percentage daily value, to make informed food choices to maintain and improve their health.[715] In addition, *Eating Well with Canada's Food Guide – First Nations, Inuit and Métis* is a version of the guide tailored to meet the needs of Aboriginal peoples. It also emphasizes the importance of combining regular physical activity with healthy eating.[139]

Physical activity also plays a role in healthy weights. A number of initiatives promote physical activity, healthy eating, and healthy weights.[716] Initiated in 2005, the federal and provincial/territorial *Integrated Pan-Canadian Healthy Living Strategy* partnered with non-governmental, private sector and Aboriginal organizations to improve overall health outcomes and reduce disparities in health among Canadians.[142, 717] The strategy is aimed at the entire population but also includes elements to address those at risk; those among whom there is an expected high return on investments such as children and youth; and those in isolated, remote and rural areas and Aboriginal communities.[142] The strategy is aiming for a 20% increase in the proportion of Canadians who are physically active, eating healthily and are at healthy body weights by 2015.[142] In September 2010, Federal, Provincial and Territorial Ministers of Health Promotion/Healthy Living (excluding Quebec) endorsed *Creating a Healthier Canada: Making Prevention a Priority, A Declaration on Prevention and Promotion*, and *Curbing Childhood Obesity: A Federal, Provincial, Territorial Framework for Action to Promote Healthy Weights* ("the Framework for Action").[142, 452, 718] The framework focuses on addressing childhood obesity in Canada by shaping programs and prevention efforts for children and youth under 18 years old for the next 10 years.[452] These strategies will work in conjunction with the now strengthened *Integrated Pan-Canadian*

Healthy Living Strategy and *Declaration on Prevention and Promotion*.[142] To further help Canadians adopt healthier lifestyles, PHAC supports the new physical activity guidelines developed by the Canadian Society for Exercise Physiology (CSEP).[719] These guidelines, released in January 2011, give Canadians basic information about the types, intensity and frequency of physical activity needed to promote good health.[719] For example, to achieve measurable health benefits, the guidelines suggest 150 minutes (2.5 hours) of moderate to vigorous physical activity a week for young adults aged 18 years and over and 60 minutes of moderate to vigorous physical activity a day for children and youth aged 5 to 17 years.[720]

Additionally, Sport Canada works with provincial/territorial governments, National Sport Organizations, Multisport Services Organizations, Canadian Sport Centres and other organizations to help Canadians participate in sports. It has provided funds to increase sport participation through a variety of initiatives for children and youth as well as targeted groups such as girls and women, persons with disabilities, low-income families, at-risk youth, visible minorities and Aboriginal peoples.[136, 721] Sport Canada has also provided support for projects undertaken by non-governmental organizations such as the such as Canadian Tire Jumpstart Charities through its signature program, Canadian Tire Jumpstart.[722] The program's goal is to remove financial barriers by helping to cover registration, equipment and/or transportation costs so that children and youth can participate in organized sport and recreation. Since 2005, this program has helped over 330,000 children in financial need to participate in organized sports.[723] ParticipACTION, a not-for-profit organization jointly funded by Sport Canada and PHAC, is the voice for physical activity and sport participation in Canada. Through communications, capacity building and knowledge exchange, ParticipACTION encourages youth to commit to healthy, active living.[135, 722]

Since January 2007, the *Children's Fitness Tax Credit* has enabled parents to claim a tax credit of up to $500 per year for eligible expenses from sport and physical activity programs for each child under the age of 16.[133, 134] While the tax credit supports families, it has difficulty helping those in the lowest income groups who cannot afford the costs associated with organized activities, making them less likely to be able to take advantage.[724] Although the *Children's Fitness Tax Credit* is not designed to address the full complexities of obesity issues, it serves as a positive reinforcement to encourage children and youth to become more active and to promote healthy weights.[134, 724, 725]

Negative stereotyping of those who are overweight or obese can affect their mental health (i.e. through poor self-esteem) both in the short and the long-term.[726] Because of the importance placed on physical appearance in our society, all Canadians, including youth and young adults, can feel pressured to conform to an "ideal" body image – and take extreme measures to fit this ideal – or be dissatisfied with their appearance. Efforts to treat overweight and obesity must continue to shift away from weight and appearance and towards healthy attitudes and balance. Most surprisingly, the source of the negative stereotypes are often from health-care professionals and family members.[726, 727] As a result, addressing healthy body image and healthy weight is a major public health challenge that crosses cultural, racial, socio-economic and gender boundaries.[452, 728] For many, weight-based stigmatization and negative stereotyping may have contributed to unhealthy weight.[726, 727] (See the section "Body image and eating disorders").

Health at Every Size (HAES) is a health-centered initiative that is challenging society's fixation with weight loss and dieting behaviours and shifting the focus to promoting health and healthy lifestyles through respect for one's body.[729, 730] The aim is to encourage acceptance and respect body size and shape diversity; to encourage eating to address hunger cues and satisfy appetite.[729, 731, 732] The main concept behind HAES is that weight is not a determinant of health, as people of different sizes can be healthy. The HAES approach, advocated by researchers and health-care professionals worldwide, has been associated with improvements in physiological measures (e.g. blood pressure), health behaviours (e.g. physical activity and eating behaviours) and psychological outcomes (e.g. mood, self-esteem and body image) and has achieved these health outcomes more successfully than traditional weight loss treatments.[731, 733, 734]

The built environment can also affect the healthy lifestyle patterns of youth and young adults.[735] As discussed in the section "Healthy communities" in this chapter, environments that support active transportation, leisure time physical activity, recreational facilities and accessibility to affordable and nutritious foods can all have a positive impact on the health of Canadians.[736] Since not everyone wants to participate in organized sporting events, other physical activity options should be made available, such as walking, cycling, playing or using trail systems.[735]

Across Canada, broad investments are being made to improve the physical environment to promote healthy lifestyles. The *Building Canada* plan provides long-term and reliable funding to provinces/territories and communities so that they can build indoor and outdoor sports facilities and active transportation projects to encourage walking, rollerblading and biking.[737, 738] Governments at all levels play an important role in addressing the problems of unhealthy weights among youth and young adults. Stakeholders need to collaborate with each other to promote healthy eating, physical activity and healthy weights. Additionally, more research is needed to understand the effects of the determinants of health on healthy/unhealthy weights in Canada so that stakeholders can apply evidence-based information to their programs and/or interventions. Although there are initiatives in place, more work needs to be done to address the challenges of unhealthy weights especially among at-risk populations such as First Nations and Inuit and those from low socio-economic households.[452, 725]

Body image and eating disorders

Healthy eating habits contribute to the physical health and well-being of youth and young adults by lowering the risk of disease, strengthening muscles and bones, increasing energy and maintaining healthy body weight.[713, 739] Also, society sends a range of messages about food and weight.[740, 741] Because of the importance placed on physical appearance in society, adolescent girls in particular, can feel pressured to conform to this perceived ideal body image or become dissatisfied with their appearance.[728, 740, 741] Some adolescent girls have reported familial pressure to lose weight or have been exposed to body preoccupations and disordered eating behaviours within their households.[740-742]

While importance of appearance is often associated with females, males are also being exposed to unrealistic images and are increasingly feeling pressured to conform to an ideal body image.[743] Males tend to associate their attractiveness with increased muscle definition, mass and body shape.[743, 744] Research shows that body dissatisfaction among males can lead to poor psychological adjustment, disordered eating behaviours (binge eating disorder, bulimia, anorexia and dysmorphia), steroid use and exercise dependence.[743, 745] Eating disorders and exercise dependence among young males can often go unnoticed because going to the gym and exercising is a culturally acceptable practice.[745] Much more research is required to determine the prevalence and patterns of eating disorders among adolescent boys and young men to recognize the symptoms and develop targeted treatment programs.[746, 747]

Both television and print media expose young women and men to an unrealistic body shape and look. In an era of lighting, make-up and digital manipulation, many desired features are enhanced or created. Research has shown that media does play a role in developing body dissatisfaction in young people, which for some can lead to unhealthy dieting practices and lower self-esteem.[748-750] Media literacy programs targeted at youth and young adults could benefit by helping young Canadians develop a more positive body image.[751]

Youth and young adults place high importance on friendships. These relationships can often influence an individual's self-perception and affect dieting practices. Communications with peers often model and reinforce the negative message that thinness and low body weight are associated with beauty.[752, 753] The family dieting environment can also increase the risk of negative body image. Parents' attitudes and behaviours on eating habits, body image and weight appear to influence adolescents' thinking regarding body image.[754, 755]

While eating disorders are a mental health issue, genetics and biological factors may predispose some individuals to unhealthy dieting practices. Risk factors such as personality and/or environment (social and cultural) can also lead to eating disorders.[240, 728, 756] Other risk factors include body dissatisfaction, dieting and using food to deal with stress. These risk factors have become well-known features of adolescent behaviour as a means of achieving the "perfect" body.[728, 742, 756] Disordered eating can mean eating too little or too much (e.g. restrictive diets, binge eating and purging), whereas normal eating involves eating to satisfy hunger.[728] Disordered eating patterns and unhealthy dieting practices are linked to the development of eating disorders.[728] Eating disorders are complex conditions characterized by abnormal perceptions of one's body image, signalling difficulties with identity, self-concept and self-esteem. Among some women, these perceptions are expressed with obsessive preoccupations with food and self-critical, negative thoughts and feelings about body weight, shape and size.[240, 728, 742]

Eating disorders can be difficult to detect and diagnose particularly in the current societal context in which experiences such as dieting, sports and performance are viewed as normal, and thinness and underweight may be difficult to conceptualize as a health concern.[756-758] Early detection is important for eating disorder treatment and recovery.[728] Eating disorders can be effectively treated using psychological and medicinal treatment plans tailored to the patient's individual needs. Treatment plans often include individual medical care, medication, and nutritional counselling as well as individual and group (family) psychotherapy.[759]

Promoting healthy weights requires co-operative action across all sectors and levels of government.[452] Many factors contribute to young people developing eating disorders, and these factors cannot all be changed immediately. More research is needed on the long-term outcomes of eating disorders in adolescents, and more research is needed to better understand the consequences of dieting on adolescent growth patterns. As well, social, economic, physical and environmental factors must be addressed to create environments that will support Canadians in making healthy choices.[452]

There is a need to train those who regularly interact with young Canadians, such as families and teachers, to identify behaviours and symptoms of disordered eating before eating disorders develop. Greater recognition of the role of the community in the development of healthy body images is also necessary. Society needs to do more to emphasize that self-worth is not related to physical appearance. Young Canadians should be given healthy food choices and taught to make informed decisions about the food they eat, focusing on healthy eating instead of food and weight. Media literacy programs targeted at youth and young adults could also be of benefit in helping young Canadians develop a more positive body image.[728, 751]

Substance use and abuse

Canada has successfully reduced smoking and the associated impact on health and while many Canadians aged 15 years and over drink alcohol most do so moderately (see Chapter 3).[364, 760, 761] Compared to other age groups, however, young Canadians are more likely to engage in substance use and abuse.[343, 364, 762]

It is often assumed that substance use and abuse is based on a lack of information and/or understanding of the short- and long-term impacts. Research shows that substance use behaviour is more complex; it is often as a result of an accumulation of interconnected and influential risk factors including familial situation, peer group, school and broader systemic factors related to socio-economic environments.[763] The transition from use to abuse (i.e. over-consumption and dependence) is often the result of the interrelation between a range of factors:

- individual risk factors: while previously more males than females participated in substance use and abuse, recent studies have found more women now binge drink, drink to excess, smoke and use licit and illicit drugs, compared to past generations.
- families: a history of inadequate parenting, low parental monitoring, poor parental-child relationships, family conflict, abuse, and family history and attitudes toward substance use can all be contributing factors.
- peers: while some youth use substances as a result of peer pressure, others choose to associate with peers that use substances and share similar values. A collective of peers can establish practices around substance use that in certain environments become normative within those peer groups.
- school: early negative school outcomes (e.g. poor academic performance, lack of reading skills, problem-solving abilities, participation and connectedness), as well as an inability to equate

personal behaviours with the information being provided, can become processes that influence behaviours and choices.

- communities: the environment can create conditions for substance use through factors such as availability and easy access to licit and illicit substances as well as conditions for social acceptance, values and norms.[343, 763]

Both schools and communities have taken active roles in addressing substance use and abuse issues; however, success is limited and greater co-operation is necessary.[343] From a public health perspective, a four-pillar approach is often used when addressing substance use and abuse: prevention; treatment and rehabilitation; enforcement; and reducing the harms associated with substance use:[343]

- prevention efforts are intended to prevent – or at least delay or reduce – substance use.[343] Meta-analyses show that these efforts are most effective when they are introduced early in the lifecourse before use takes place. Many broad programs adapt a common prevention approach called Drug Abuse Resistance Education (DARE) that relies on the police providing credible information to youth and young adults to help them resist drug use.[343, 431] However, evaluations of the approach show that while the program provides information that participants retain, knowing this information does not necessarily prevent use. Prevention efforts are more promising when they focus on healthy development and building resilience (asset building). Protective factors include having supportive parents who are actively engaged in school and/or community.[343]
- while the ideal goal is to eliminate the risk, treatment and rehabilitation can redirect those who have adopted a risky behaviour. The success of treatment programs depends on having supportive and coordinated efforts. Evidence shows that the most effective interventions are those that target a young person's needs and motivations, support and integrate families and communities into the treatment, and provide a range of post-treatment options.[343] Treatment initiatives are complicated by the type of substance used as well as the range of organizations and institutions involved, in addition to the competing legal issues and values that may also be involved. The effectiveness of various treatment options is often challenged by the inability of those involved to agree on similar goals. As well, the nature of what is effective and acceptable varies across populations. For example, treatment and rehabilitation programs that integrate traditional practices and healing circles have shown promise with Aboriginal youth who are using drugs.[343]
- enforcement is one of the multi-sectoral issues where ultimately the goals are healthy and safe environment for society as a whole. Enforcement and regulatory practices are intended not only to address criminal activities and behaviours but also to set standards of zero tolerance, especially within schools and public environments.[343, 764]
- harm reduction is a public health approach used to prevent secondary consequences (disease, overdose, death) of risky behaviours that include alcohol and other drug use in individuals who have been unsuccessful in achieving abstinence or who are waiting for drug rehabilitation services.[765-768] In regards to substance use, these strategies are based on the premise that drug use exists, that some of the

people using drugs are unable or unwilling to stop using drugs at a particular time, and that practices should be put in place to reduce the risk of harm to the person using drugs as well as the community in the interim.[343, 766, 767, 769, 770] Internationally, the focus of harm reduction has been primarily on the prevention of HIV and AIDS in relation to illegal drugs, and various bodies, including the WHO, the Joint United Nations Programme on HIV/AIDS (UNAIDS), the United Nations Office on Drugs and Crime (UNODC) and United Nations Children's Fund (UNICEF), recognize the importance of reducing harm as part of a comprehensive response to addressing drug use and infectious diseases.[768, 771-773] Such a comprehensive response also includes efforts directed at abstinence, enforcement, education, illness prevention, condom distribution, infection control, disease surveillance, testing and treatment.[774]

Canadians have a vested interest in addressing problems with substance abuse. In 2002, the cost (including health, enforcement and lost productivity) of substance abuse in Canada was estimated at $39.8 billion (of which tobacco represented 43%, alcohol 37% and illegal drugs 21%).[775] The benefits of encouraging and offering treatment are immense. The United Kingdom's *National Treatment Outcome Research Study* reported that for every British pound spent on drug prevention interventions there was an estimated three British pounds saved on criminal justice costs.[776]

While there is much overlap between substance, alcohol and drug use and abuse, they are discussed separately in order to profile an example for each and to address the complexities in comparing behaviours that can range from legally and socially normative to illegal. For example, while in most provinces and territories, alcohol use is legal for those aged 19 years and older, illicit drug use is illegal and the context for addressing these situations is different, even if some of the approaches are similar. The following discussion highlights intervention examples for the following issues:

- drug use and abuse;
- alcohol use and abuse and prenatal alcohol use; and
- tobacco control initiatives.

Approaches to addressing drug use and abuse

The *National Anti-Drug Strategy* (NADS) is the Government of Canada's comprehensive response to addressing illicit drug use across the country. Launched in 2007, the strategy is a collaborative effort involving the Department of Justice, Public Safety Canada and Health Canada. Its goal is to contribute to safer and healthier communities by reducing and contributing to the elimination of illicit drug use in Canada. The NADS includes three action plans: preventing illicit drug use, treating those with illicit drug dependencies, and combating the production and distribution of illicit drugs.[764, 774, 777, 778]

- the Prevention Action Plan focuses on youth by supporting communities to address future challenges; providing information for parents, educators and health professionals, and developing school-based awareness tools and a national awareness campaign aimed at elementary and secondary school students and their parents;[764, 777, 779]
- the Treatment Action Plan supports new and innovative approaches to treatment and rehabilitation, enhances treatment for First Nations and Inuit, provides treatment for young offenders, and enables the RCMP to refer youth with drug problems for treatment; [764, 777, 780] and
- the Enforcement Action Plan provides resources for combating, enforcing, investigating and prosecuting drug-related crimes, supporting and expanding RCMP anti-drug investigations, and increases inspection and investigation capacity across jurisdictions.[764, 777, 781]

The strategy's youth campaign, DrugsNot4Me, uses Internet channels (such as Facebook and YouTube), cinema and TV to help youth learn the effects of drugs and how they can avoid taking them ("say no"). There have been over 791,000 visits to the DrugsNot4Me website and more than 208,000 unique views of the TV ads on YouTube in a little over a year, as well as over 67,000 Facebook fans. DrugsNot4Me has capitalized on the popularity of social media and, through the implementation of original ideas and the unique adaptation of communications tools, has engaged youth on an important health issue.[782] Again, more research into and evaluation of the effectiveness of social media for reaching youth and young adults is required.

The NADS also supports communities and provinces/territories with targeting at-risk populations:

- funding health promotion and prevention initiatives aimed at reducing illicit drug use among young Canadians aged 10 to 24 years through the *Drug Strategy Community Initiatives Fund;*[783]
- supporting the *National Native Alcohol and Drug Abuse Program*, aimed at enhancing treatment and support for Aboriginal populations;[784] and
- collaborating with the provinces and territories to support drug treatment systems and services where gaps exist through the *Drug Treatment Funding Program*.[785]

Harm reduction is no longer a formal pillar to the Government of Canada approach.[774, 786] Rather, harm reduction is represented in NADS within the other three pillars of enforcement, prevention and treatment. The Government of Canada has made treatment for people addicted to drugs and helping them get off drugs a priority.[764, 774, 786] From a public health perspective, the goals of promoting abstinence, as well as facilitating and increasing access to drug treatment for those with addictions, aligns with NADS.[774, 786] In particular, PHAC plays a role in:

- helping address the health needs of at-risk populations;
- identifying and understanding patterns of infection and risk behaviours through routine epidemiology and surveillance (Enhanced Surveillance of Canadian Street Youth [E-SYS], hepatitis B vaccines, hepatitis C and HIV);
- exchanging and translating knowledge to build evidence that can guide policy and programs; and
- supporting community capacity to enable communities to find solutions (such as the *AIDS Community Action Program*, the *National Non-Reserve First Nations, Inuit and Métis Communities HIV/AIDS Project Fund* and the *Hepatitis C Prevention, Support and Research Program*).[774, 786]

Some jurisdictions extend further concepts in harm reduction practices within their anti-drug strategies. For example, the City of Vancouver specifies harm reduction in their drug strategy, which also includes prevention, treatment and enforcement.[787] A recent retrospective study by the British Columbia Centre for Excellence in HIV/AIDS that examined overdose mortality before and after the opening of Vancouver's supervised injection facility, reported a 35% decrease in mortality for the region served by the facility.[788]

Research on existing programs outlines the gaps in addressing substance abuse and shows where investments may improve outcomes for individuals, communities and families. Investments include age-relevant programs, increasing the knowledge and skills of those who work with youth and young adults who have been or are at risk for substance use and abuse, and increasing research knowledge and evaluation of current and future initiatives.[343]

Age-relevant programs include two main approaches: targeting children with early interventions and information, and addressing youth with age-appropriate initiatives.[789] Early interventions provide children with the tools necessary to make healthy lifestyle choices. They can also target and address risk factors such as early academic and social difficulties, abuse and psychological disorders, as well as preventing early initiation of substance use. To be effective, youth programs need to be relevant to the population and target the interests, activities and values of youth, as well as be informed about the substances most frequently used by youth.[343, 789] Programs for adults are neither youth-relevant nor in tune with young adults who have experienced a delayed transition. As a result, anti-substance initiatives that are oriented towards youth and young adults may need to expand the boundaries of what is considered youth programming.[343, 789]

While school-based programs may be effective for some, higher-risk users are less likely to attend school regularly and are also less likely to respond positively to mainstream messaging.[343] School-based best practices involve several factors:

- timing and program relevance: lessons need to be co-ordinated and relevant. Interventions are most effective if offered immediately prior to students initiating behaviour with additional follow-up to reinforce healthy behaviours.
- contextual content: youth and young adults are involved in developing prevention practices and provide context from their perspective by

participating. This approach offers accurate experiential information that provides realistic understanding of substance use and how to address it. A youth context supports an approach that is skill-, activity- and knowledge-based for the age group. This approach has been shown to be more effective than relying solely on non-use goals.

- training: increased professional training in areas of drug education and interactive programming.[343, 789]

Interventions such as the School Health and Alcohol Harm Reduction Project (SHAHRP), which deals specifically with alcohol use, have had some success with a school-based health intervention (see the textbox "School Health and Alcohol Harm Reduction Project (SHAHRP)").

Professionals who work specifically with youth or with youth initiatives are often their first point of contact and may have the opportunity to identify who are at risk at an earlier age.[343] Young people come into contact with a number of health and social service providers who can promote healthy options, recommend interventions and refer them to other professionals. Thus, education programs for adults working with youth should be broadly disseminated and include modules that address risk factors for substance use, assessment and intervention strategies as well as resources for youth, their families and other significant adults in their lives. The knowledge of risk and protective factors is necessary to anticipate emerging needs or potential problems in the future.[343]

Addressing alcohol use

Many young Canadians engage in risky alcohol consumption, resulting in immediate and long-term effects on health and well-being. Binge drinking or heavy drinking can cause impaired judgement leading to further risk-taking behaviours (see Chapter 3 for more information). Excessive alcohol consumption over the short and long term can cause poisoning, illness, disease and injury as well as lead to risky sexual behaviours, assault and death.[343, 365, 366, 793, 794]

The most effective health promotion interventions for alcohol use and abuse are broad population-level interventions where outcomes focus on improving access to programs, providing information and developing healthy behaviours. A systematic review of 32 alcohol interventions measured these along four criteria: effectiveness, quality of the evidence, cultural relevance and costs of implementing and sustaining interventions over time.[795] The most effective interventions included adherence to a minimum drinking age, controlling

School Health and Alcohol Harm Reduction Project (SHAHRP)

The School Health and Alcohol Harm Reduction Project (SHAHRP), a longitudinal intervention research study, used evidence-based classroom lessons on alcohol to reduce alcohol-related health impacts.[790] Over four years, the National Drug Research Institute of Australia targeted students aged 13 to 14 years in 14 schools in Perth, Australia. The goal of the study was to reduce the level of alcohol-related health impacts in students who drink alcohol and to reduce the negative impacts on those students who do not drink but are influenced by those who do.[790, 791] The lessons ran in three phases – eight lessons in the first year, five booster lessons in the following year and four additional booster lessons two years later.[790] The lessons included various activities to incorporate delivery of information, rehearse skills, develop individual and small group decision-making skills and encourage discussions based on scenarios.[791]

A one-year follow-up study showed that SHAHRP had a statistically significant impact on alcohol-related knowledge, attitudes and behaviours. After completion of the study, SHAHRP students had decreased risky behaviours associated with alcohol use.[791] The results of the SHAHRP evaluation showed a positive uptake of the messages when these were developed and presented within the context of the students' experiences.[791] This was particularly true for students who had previous experience with alcohol use and who were rarely affected by interventions that advocate for non-use or the delayed use of alcohol.[791] The study found that the project, which does not solely advocate for non-use or delayed use, nevertheless produced larger reductions in alcohol consumption than either classroom-based or comprehensive programmes that promote abstinence and delayed use. The findings of the study resulted in a wider application of the program throughout Australia.[792]

and restricting alcohol sales to minors, taxing alcohol purchases, lowering legal blood alcohol limits and having graduated driver's licensing as well as licence suspensions.[789, 795, 796] The majority of these practices target youth and young adults rather than the remainder of the population. One approach to addressing issues of excessive alcohol consumption such as binge drinking is to target these age groups with education and broad awareness campaigns.[789, 795] Ensuring that youth and young adults understand the risks of excessive alcohol use and harm to oneself as well as the importance of recognizing and acting upon situations where a peer may need help (e.g. recognizing signs of alcohol poisoning) is critical.[795, 797]

In 2010, the WHO adopted a *Global Strategy to Reduce the Harmful Use of Alcohol* after all member states identified the use of alcohol as a significant and global public health issue. The strategy recognizes the interconnection between all factors that influence health and alcohol behaviours in particular. The strategy highlights the importance of reducing health inequalities by addressing risky alcohol behaviours.[796] Actions include co-ordination and synergy across jurisdictions (including international jurisdictions), providing leadership, identifying at-risk populations (including youth), strengthening partnerships and networks, co-ordinated monitoring of alcohol-related harm and evaluating and disseminating results.[796]

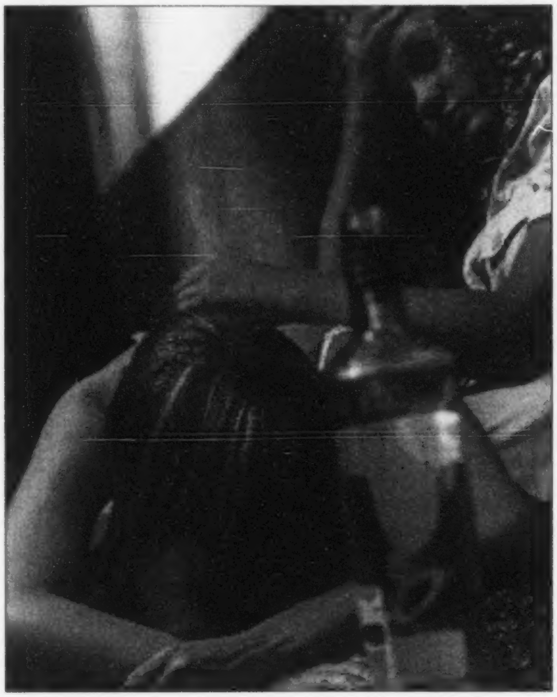
Preventing prenatal alcohol use

Prenatal care and support continues to positively influence the health of pregnant women and infants in Canada by enabling healthy choices, including avoiding risk behaviours such as alcohol consumption during pregnancy and breastfeeding.[50, 368, 798-800] Much of this success can be attributed to prenatal care and screening, healthy pregnancy campaigns and other early education initiatives.[798-801] However, there are still pregnant women who are not receiving the support and care required for healthy fetal development as a result of socio-economic conditions, lack of general information, unavailability and inaccessibility of health information and support services, and interactions with other risk behaviours through individual or partner choices (e.g. smoking and second-hand smoke).[802] Those who are most vulnerable to unhealthy behaviours remain difficult to reach. Addressing the conditions and environments in which at-risk pregnant women live is critical.

Fetal Alcohol Spectrum Disorder (FASD) is the term used to describe the range of health outcomes that can affect a child as a result of prenatal exposure to alcohol. These health outcomes can include vision and hearing problems, slow growth and brain damage that results in lifelong problems with attention, memory, reasoning and judgment. FASD is considered a leading known cause of developmental disability in Canada. Effective prevention of FASD remains a challenge for public health.[800]

Fetal Alcohol Spectrum Disorder (FASD) describes a range of health outcomes that may affect people whose mothers consumed alcohol while pregnant. While it is difficult to determine the prevalence of FASD, prenatal exposure to alcohol may be a significant cause of developmental and cognitive childhood disabilities in Canada.[368, 800] Prevention of FASD is complex and requires a holistic and multi-factorial approach that includes a variety of intervention tactics and a mix of service providers.[800] Broad awareness has had some success, though research shows that many factors influence alcohol use in general (e.g. addiction) and during pregnancy in particular (e.g. access to care, nutrition and violence).[800] PHAC has developed a four-part framework for prevention that includes:

- raising public awareness through campaigns and other broad strategies, which involve a range of promotion and awareness activities as well as a range of people at the community level to help offer social support and incite social change;
- counselling, so that adolescent girls and young women can openly and safely discuss pregnancy, alcohol use and related issues with their support networks and health-care providers;
- making available prenatal support that is accessible and culturally and gender-relevant and addresses a range of health issues including alcohol problems and related mental health concerns; and
- providing postnatal support to help mothers and families maintain the healthy changes made during pregnancy and adapt to new changes after pregnancy and birth. This is also an important stage to launch early interventions for children identified as having FASD.[800]



Raising public awareness and developing social policies to address the dangers associated with alcohol and pregnancy has had some success in advancing social support and social change.[368] Most Canadians are familiar with posters, television advertisements and label warnings on the possible effect of alcohol use on the fetus.[803] Broad campaigns against alcohol use during pregnancy have achieved good message recall and increased awareness of these issues in the short and long term and have contributed to positive changes in behaviours.[799] However, warning label messages (e.g. health warnings on product packages) in the United States have shown only modest benefits through increased knowledge and behavioural change. As well, knowledge and behavioural change success is most often reported among sub-populations that are at lowest risk for prenatal alcohol use.[368] Evidence demonstrates that warning labels on alcohol beverage containers alone are not effective in changing behaviour nor in reducing alcohol-related harm.[799] In a framework for action, Canada set goals that included improved awareness through a multifaceted approach with better information, greater dissemination as well as creation of information that is culturally relevant and compassionate. The framework also recognised that awareness practices do not act alone, as action on FASD must also include the development of effective tools for prevention, early identification, referral and diagnosis, as well as targeted initiatives and community-based programs which combined could achieve greater health and social outcomes.[804]

While these efforts are important for reaching the general population, they are often less effective in getting through to higher-risk sub-populations.[368] Programs that work to breakdown barriers to prenatal care through community outreach have had some success in addressing prenatal health risks in distressed communities. Programs such as the *Canada Prenatal Nutrition Program* (CPNP) and the *Canada Prenatal Nutrition Program-First Nations and Inuit Component* (CPNP-FNIC) use successful evidence-based approaches on maternal/child health that involve community workers.[669, 670, 672] The goal of CPNP and CPNP-FNIC is to provide program activities that reflect the priorities and culture of the communities the programs serve.[669, 672] While prenatal alcohol use was higher among CPNP participants than the overall population, evaluations show that those who received CPNP support including alcohol cessation and group nutritional counselling, were the most likely to quit drinking alcohol during their pregnancy.[805]

Evidence indicates that interventions that have been successful in helping young women reduce risk behaviours during pregnancy include targeted efforts to support minimizing risk factors; counselling; professional persistence (such as those supporting smoking cessation tactics); addressing isolation/depression issues; and creating safe opportunities for women to express themselves openly.[801, 806] These interventions have also been successfully extended to include broader groups within communities, such as partners and other family members who can support pregnant women who may be tempted to drink or smoke.[806, 807] At-risk women are more likely to positively respond to family members and/or health and social workers that they trust.[808] As well, some physician-led alcohol interventions during pregnancy have had some success in reducing alcohol consumption among women from a range of socio-economic backgrounds and various risk profiles.[809] Evidence suggests these programs could be beneficial when targeted at high-risk populations, especially if they are combined with home visitation over a significant period of time (two to five years following the pregnancy) (see the textbox "Addressing FASD – Manitoba's STOP FAS Initiative").[810-812] However, barriers to accessing prenatal care can exist especially among certain subpopulations.[668, 808, 813]

Developing knowledge and providing proven and relevant services to pregnant women is key to addressing prenatal substance use. The Canadian Perinatal Surveillance System (CPSS) is an ongoing national health surveillance program aimed at improving the health of pregnant women, mothers and infants by systematically collecting and analyzing timely and relevant information about their health status and the factors that influence their health (including alcohol consumption during pregnancy).[814] The CPSS works with provincial/territorial partners and stakeholders to establish standardized indicators and variables on which to report.[814] In particular, the Maternity Experiences Survey (MES), a CPSS project, reports on women's knowledge, perspectives, practices and experiences related to pregnancy, birth and parenthood.[815] Regardless of these efforts, information gaps remain. Women who are at greatest risk for unhealthy prenatal behaviours do not seek some form of prenatal care and therefore information on their outcomes and experiences remain underrepresented.

Addressing FASD – Manitoba's STOP FAS Initiative

Manitoba's STOP FAS was developed to address the problem of the increasing numbers of children diagnosed with FASD during the 1990s.[812] The initiative (based on the American Parent-Child Assistance Program) is an outreach program that offers support, through mentorship, to women who are pregnant or have recently had a baby and are struggling with alcohol or drug use.[810, 812] The approach aims to provide a personalized program that gradually brings about behavioural change. A mentor is assigned to each woman, and they work one-on-one for three years with the woman and her family at home to help her identify personal goals; address socio-economic issues such as housing, family violence, access to health care and community services; access to drug/alcohol treatment and choose family planning practices.[810-812] Outcome evaluations found that 60% of women had a lower risk of delivering a child with FASD as a result of either being abstinent from alcohol (and drugs) for at least six months or as a result of using a family planning method regularly. About 65% had completed an addictions treatment program, and 28% had completed an educational/training program. As well, 63% of children of at-risk mothers were living with their own families (23% with their mothers and 40% with fathers and/or extended family).[812]

Tobacco control initiatives

Canada reports an overall significant and sustained decline in the prevalence of tobacco use. This progress can be credited to shifts in attitudes towards tobacco and to Canada's comprehensive initiatives to reduce smoking prevalence through, for example, the Federal Tobacco Control Strategy.[152] Despite this success, youth and young adults continue to smoke – a behaviour that can have serious health outcomes over the lifecourse.[355, 356, 760, 816]

Most Canadians have directly or indirectly (through family and friends) experienced the health impacts of tobacco. Canada's *Tobacco Act* regulates the manufacture, sale, labelling and promotion of tobacco products.[154] Canada's Federal Tobacco Control Strategy is a collaborative effort across sectors to prevent people, and in particular youth, from starting or continuing to smoke, to protect people from second-hand smoke and to regulate tobacco products across Canada.[153] Provinces and territories are also developing programs to support individuals who wish to stop smoking. Programs such as Saskatchewan's Partnership to Assist with Cessation of Tobacco (PACT) trains health-care professionals in cessation principles and practices and building relationships of trust for individuals seeking smoking cessation.[817]

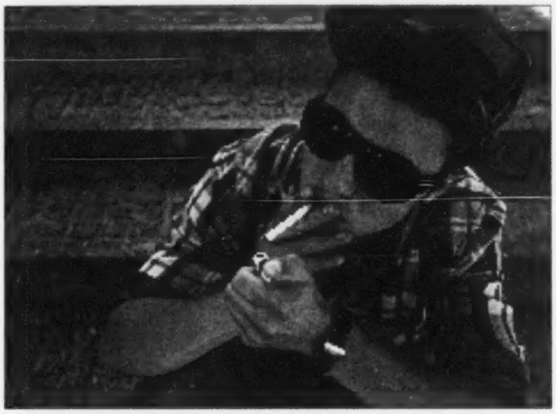
Since 2001, federal and provincial/territorial efforts in tobacco control have created a strong tobacco control environment in Canada. The success of Canada's tobacco control initiatives is in part due to compliance with existing laws and policies. Analysis of the Retailers' Behaviour Toward Certain Youth Access-to-Tobacco

Restrictions Survey in 2009 shows an increase in compliance with youth purchase laws approaching 90%.[818] In addition, the *Tobacco Act* effectively bans advertising of tobacco products, and there is a high compliance with provincial/territorial legislation restricting tobacco displays in retail establishments. Retailer compliance is considered a contributing factor to the decrease in the prevalence of smoking among youth and the decrease in the percentage of youth buying cigarettes.[818]

Smoking rates among Aboriginal peoples are higher than the overall Canadian average.[176] While consideration must be given to the traditional use of tobacco for healing, prayer and giving thanks, First Nation Elders state that there is a difference between the traditional and modern use of tobacco and that addiction to commercial tobacco is non-traditional.[819]

Communities have a role to play in reducing the use of tobacco among youth and young adults by challenging social practices, raising awareness about the health risks associated with smoking and creating laws banning smoking in public spaces.[153, 820] Change has been gradual; nevertheless, more than 300 communities across Canada currently have by-laws or policies restricting smoking in public places.[821] The Municipal Bylaw Toolkit is a resource developed by Health Canada to help communities implement and evaluate smoking policies in public spaces.[820, 821] Provincial/territorial governments are also implementing broader control of smoking in public spaces. In 2006, Ontario introduced the *Smoke-Free Ontario Act* to prohibit smoking in enclosed workplaces and enclosed public places (such as shops, restaurants, bars, taxicabs, etc.).[822] Today, all provinces/territories have tobacco control legislation or strategies in place. Moreover, provinces/territories have implemented second-hand smoke bans that now cover many public spaces.[820]

The Students Commission of Canada develops initiatives to engage youth to reduce tobacco use among other young Canadians. Through the Youth Action Committee and the development of a Young Adult Advisory Committee, a network of youth and young adults provides ongoing advice and feedback on tobacco-related policies.[823] Engaging young Canadians in the decision-making process will help in developing relevant youth-oriented tobacco reduction initiatives. New programs are being developed to maintain and enhance the effectiveness of tobacco control measures.[824] For example, the amendment to the *Tobacco Act, Cracking Down on Tobacco Marketing Aimed at Youth Act* banned the use of certain additives, including flavours (excluding menthol) in cigarettes, little cigars and blunt wraps that contributed to making such products more appealing to youth.[824, 825] The *Act* also added further restrictions on tobacco advertising as well as minimum packaging requirements on some products.[824-826]



Targeting young adults with smoking cessation programs can be successful in terms of effective cessation outcome and benefits to current and long-term health. Targeted programs for young adults can have a good return on investment in terms of effectiveness and long-term benefits.[827] However, many smoking cessation programs are primarily used by older smokers.[828, 829]

Summary

The areas of concern highlighted in this chapter are ones where Canada, as a society, can make a difference in the current and future health and well-being of Canada's youth and young adults. While there are proven and promising interventions, there are also many gaps in knowledge, information and best practices.

Addressing the social determinants of health is critical to making the transition from childhood to adulthood. Initiatives that support home and family, healthy schools, work and community have been effective in improving the health and well-being of young Canadians. Programs that focus on strengthening families can also make a difference. Positive relationships with family have been shown to discourage risk-taking and anti-social behaviours and increase positive social relationships and the pursuit of academic goals. Broad programs that encourage youth to attend and stay in school as well as those that provide job search and workplace skills training make effective contributions to support populations. The most effective programs are those that target the young and build trusting and respectful relationships with adults. While the importance of resilience is known, more work needs to be done to increase knowledge, provide targeted programs that are appropriate and relevant, increase access and availability, inform decision-making and evaluate interventions for effectiveness and relevance to youth and young adults and the contexts in which they live, learn, work and play.

Investments in youth and young adult programs that promote social and emotional health and well-being and prevent mental health disorders and illnesses are important to mental health across the lifecourse. Targeted programs such as school-based programs or cognitive behaviour therapies are particularly effective among young Canadians. Youth and young adults still experience significant barriers in terms of accessing relevant and appropriate care and addressing the impacts of lack of information and stigma. Reducing stigma and raising awareness and mental health literacy are important to creating and increasing opportunities for prevention, treatment and support within communities and families. The latter can be best achieved by acquiring a better understanding of the effectiveness of current interventions. These efforts will require a co-ordinated and collaborative approach that may be facilitated through broad mental health strategies such as those being developed by the Mental Health Commission of Canada.

Suicide prevention is complex and requires many tactics that involve individuals, families, communities and governments. Targeting those most at-risk may involve addressing underlying factors such as social stigmatization and intergenerational histories as well as community and neighbourhood factors (as is seen among some Aboriginal populations). Social media can play a significant role in suicide prevention as a support for finding help; however, it can be a medium for bullying and isolation. More work needs to be done to better understand the role of social media and its influence on youth. Broad-based initiatives for suicide prevention can make a difference if they are multi-pronged and incite community action, offer continuous education and inter-sectoral collaboration.

Since preventable injuries are a significant cause of death and hospitalization for youth and young adults, interventions to raise awareness, modify risky behaviours and reduce or mitigate injuries are important practices, as are policies and legislation for safety. Workplaces are becoming safer as young Canadians, their employers and other organizations work to reduce risks by providing training, creating workplace safety policies and applying jurisdictional guidelines; nevertheless still more can be done. Youth-targeted educational programs have been instrumental in increasing awareness of risk and empowering young Canadians to make safer choices in activities and sports. Legislation and regulation have also helped encourage safer practices and provide safer products, equipment and vehicles. Broad initiatives that offer leadership and co-ordinated surveillance, regulation, education, prevention, community support and infrastructure have had some success in those areas.

Bullying is a relationship problem and addressing this involves developing healthy and respectful relationships among young Canadians. Addressing bullying at school is the most common anti-bullying approach. Whole-of-school approaches that encourage responsibility, empathy and leadership, involve adults and are focused on long-term interventions that start early have had the most success. Addressing workplace bullying requires employer/employee relationships and broad anti-harassment policies.

Most Canadians will experience sexual relationships during youth and young adulthood. Sexual health interventions are intended to promote sexual health and prevent risky sexual behaviours. Building strong and healthy relationships requires interventions that work to minimize unhealthy relationships by encouraging respect, responsibility and empathy. In-school programs have been effective in providing messages around reducing unplanned pregnancies and STIs.

Creating Healthy Transitions

Promoting reproductive health is an important component of sexual health. Creating opportunities for choices about reproduction as well as support for young parents is necessary. By supporting parents, there are opportunities to make a difference in prenatal nutrition and screening for current and subsequent pregnancies. Canada is also making progress in implementing broad population-based programs that are reducing and tracking STIs and HIV and continues to play a role in the global fight against HIV and AIDS.

Healthy living is important for all Canadians, not least youth and young adults. While the negative health outcomes of living with overweight and obesity are well known, information about risk factors, including nutrition and physical activity practices, is limited, as are data related to the effectiveness of interventions. Home and community environments are critical to establishing lifelong healthy behaviours, as are infrastructure and strategies that support and promote access to affordable recreation, foods that are more nutritious and other supportive resources. Eating disorders and unrealistic body images also impact the health and well-being of young adults and addressing these problems requires a multi-pronged approach including programs that raise awareness and challenge popular images, identify disorders early to seek treatment and train mentors and adults to recognize unhealthy behaviours and symptoms.

While Canada has had some success in reducing the effects of some substances (e.g. tobacco smoking), many young Canadians are at risk for substance use and abuse. Addressing substance use is complex and requires an understanding of both individual and broader socio-economic factors. In-school programs are important for outreach and to identify, use and implement target strategies. Legislation and regulations that establish age of use, bans and controls of use have made a difference. Broad strategies are using multi-pronged tactics to prevent use, treat dependencies and minimize distribution of and access to substances. Broad awareness programs have looked towards effectively engaging youth in the discussion to disseminate information and educate the population.

The promising and successful interventions and initiatives profiled in this chapter are making a difference in creating conditions for healthy transitions. Together, they illustrate and confirm that all Canadians and sectors of society can make a difference in identifying and implementing effective programs with measurable outcomes. These efforts provide a starting point from which to draw inspiration, think, plan and act; however, the health and well-being of some Canadians is still compromised and some still fall through the cracks. More can be done. Chapter 5 highlights the priorities for action to move forward towards a healthy future.

Moving Forward – Priority Areas for Action

CHAPTER 5

Experience is a hard teacher because
she gives the test first, the lesson afterwards.
– Vernon Saunders Law

Over the past century, improvements in health and quality of life have made Canada one of the healthiest nations in the world.[830] Through research, planning and action, Canada has established a strong foundation for the health of all Canadians. This success means that today's youth and young adults can, for the most part, expect to live long, vibrant and healthy lives.

Still, some persistent, worrying and emerging issues are negatively influencing the health of Canada's youth and young adults. As well, certain segments of the population are particularly affected with poorer health outcomes.[10, 23, 319, 831-833] Canada can create and implement more effective programs, interventions and policies that make a difference in tackling all serious health issues facing young people.

For the most part, the issues identified in this report can be improved. In fact, successful efforts that make a difference already exist and can be replicated and expanded. Based on what we know about the health of youth and young adults, action in the priority areas identified in this chapter can improve the health of young Canadians. Solutions are not easy – what works for one community or individual may not work for another. Understanding this and identifying what does and does not work are important first steps towards finding the right solutions.

Priority areas for action

To facilitate the best possible outcomes for youth and young adults as they transition to adulthood, Canada could benefit from better evidence and awareness, more supportive environments and improved collective leadership for this key population. In particular, efforts need to focus on the following areas:

- improving and making better use of population and program evidence;
- increasing education and awareness;
- building and maintaining supportive and caring environments; and
- approaching problems from all sides with co-ordinated, multi-pronged, inter-sectoral action.

While each of these areas is important to achieve the best results, greater engagement of youth and young adults is necessary. As a society, Canada must recognize the importance of having youth and young adults participate in identifying problems and realistic solutions for, among others, their health outcomes. It is crucial that Canadians are respected and given the opportunity to participate in society at all stages of life.

Improving and making better use of population and program evidence

This report has identified several areas where data on youth and young adults is limited. Having better information will allow for better identification of long-term trends and areas where efforts should be focused. It can also identify areas where programs are not working and where new approaches should be explored so that efforts continue to improve to meet the needs of youth and young adults in Canada.

While some health data exists, there are still challenges – small studies may be scaled up or generalized and not be applicable to the larger population or the data collected may not be comparable.[834] As well, national studies may not capture local issues. Having appropriate, sophisticated, public health data and evidence is important for policy-makers, public health practitioners and communities planning health interventions and programs, which is why looking broadly and finding applicable results from studies is an ongoing challenge.[834, 835]

Canada has made some progress in collecting data. For example, the Health Behaviour in School-aged Children (HBSC) studies have provided valuable information on the health, well-being and social context of health behaviours and outcomes.[836] The studies have also been influential in developing effective health promotion and health education policies that target young people. However, they only provide information on children and youth aged 11, 13 and 15 years who are attending school.[836] Other valuable information on Canadian youth and young adults comes from survey data such as the Canadian Community Health Survey (CCHS), the Canadian Alcohol and Drug Use Monitoring Survey (CADUMS), the National Population Health Survey (NPHS), the Youth in Transition Survey (YITS) and the National Longitudinal Survey of Children and Youth (NLSCY).[837-842]

There is limited socio-economic, physical and mental health data for the 12- to 29- year age group, and in particular for certain sub-populations (First Nation, Inuit and Métis, immigrants and street-involved youth). However, certain mental health information gaps might be addressed with the CCHS 2012 as its focus will be on mental health. In addition, the CCHS 2012 should be able to address some gaps related to socio-economic data for certain sub-populations.[843] Nevertheless, researchers, policy-makers, community leaders and schools could benefit from additional information to help understand why some young people engage in unhealthy risk-taking behaviours and others do not, allowing for more informed program design.

New longitudinal studies that follow a cohort of individuals from birth to early adulthood would also be beneficial. Such studies would help to examine the determinants of health that affect the lifecourse and identify certain trends over time including valuable information on the limitations of interventions directed towards young people. They could be designed to include data from all areas of Canada especially sub-populations. Cross-sectional data from these studies would provide a snapshot of the health of the population at a particular point in time.

Also important to note are the difficulties associated with comparing the health data on the Aboriginal population and the overall Canadian population. Data gathered on the health of Aboriginal peoples may not necessarily reflect each unique Aboriginal group's health circumstances because the data are often generalized as part of the entire Aboriginal population.[844] Comparable health data on the overall Canadian population and Aboriginal groups of First Nations living on a reserve, First Nations living off a reserve, Inuit and Métis are needed.

Since 1991, the Aboriginal Peoples Survey (APS), which is conducted every five years, has provided valuable health and socio-economic data on First Nation, Inuit and Métis youth and young adults. However, it does not contain any information for First Nations living on a reserve, and only certain data elements of the survey are comparable with other national surveys focussing on the overall Canadian population such as the annual CCHS.

CHAPTER 5

Moving Forward – Priority Areas for Action

While having improved health and social data is important, there is also a need for evidence of what programs and interventions work and where improvements can be made. In Canada, there are many programs aimed at improving the health of youth and young adults; however, evaluations for effectiveness are limited. Broadly speaking, there are challenges to conducting evaluations such as leadership, collaboration and having the appropriate resources in place.[645] Still, having robust evaluations can contribute to overall knowledge by providing important information to determine if the programs are reaching their targeted goals, reaching the targeted population and are applicable to other populations and jurisdictions. Evaluation should not only occur upon completion of a program, but should occur at varying points in program delivery to allow for ongoing adjustments. Engaging youth and young adults who participate in these programs would provide valuable information on the effectiveness of the intervention. While standard evaluation practices have been established for common types of program delivery, clear and consistent mechanisms are needed to measure the effectiveness of programs that are being delivered through new tools such as social media (e.g. Facebook, YouTube and Twitter).

Of those programs or interventions that have been evaluated, more effort is required to ensure that the targeted population is fully described; many of them do not indicate how the outcomes varied across sub-populations or by gender, race, culture and sexual orientation. This information is critical in effectively influencing healthy behaviours. By effectively capturing the demography of participants, programs can be better customized to help ensure that targeted populations are being reached.

With better data and evidence from intervention evaluations, it will be easier to assess current and long-term health trends and determine appropriate actions to improve the health and well-being of Canada's youth and young adults.

Increasing education and awareness

Combined with training, education and awareness programs play an important role in establishing healthy behaviours. Mitigation of negative behaviours and choices during adolescence and young adulthood can have a lasting impact on health. To be effective, there is a need to educate often, across the lifecourse, with the optimal approach being a combination of both formal education and social marketing practices. Education and training extends beyond youth and young adults to include all Canadians that support this age group (parents, teachers, mentors, community members, health- and social-care professionals).

Education allows for the development of healthy practices through knowledge that is acquired before the need for information arises.[507, 656] For example, learning about mental health or balancing nutrition and physical activity should start early when children are just beginning to learn about choices and healthy practices.[452, 507, 751] Similarly the time to learn about healthy sexual behaviours is before becoming sexually active.[655, 656] However, education and awareness activities should be ongoing and sustained across the lifecourse.

Canada has taken action by setting and promoting guidelines, recommendations and advisories on a number of key issues including injury prevention and sexual health education. The Mental Health Commission of Canada (MHCC) is working towards the development of a broad strategy for mental health that could include goals such as improving conditions for those experiencing mental disorders and illnesses, creating multi-pronged programs and continuing anti-stigma awareness campaigns. Education and awareness could also be a key component of a mental health strategy as raising awareness can help to break down barriers and stigma associated with mental health disorders and addressing mental health problems.[507]

As young Canadians grow increasingly comfortable with today's technology, they have quick access to all types of information via the Internet and social networking sites.[646] Messages can be delivered to young people through social media, targeted to change behaviour, create culture shifts and establish support networks. For instance, social media can be used to support and educate lesbian, gay, bisexual, transgender or questioning (LGBTQ) youth and young adults on how to seek support. Social media can also have negative consequences by further isolating and marginalizing individuals and being a tool for bullying. More applied research is needed to explore how social media can be used to support education and awareness as well as identify the challenges and risks associated with specific health issues, particularly for young Canadians.

Youth and young adults need to be engaged and involved in consulting, developing, implementing and disseminating information on programs that impact them.[847] Doing so provides valuable insight on issues that are relevant to youth and young adults, and in particular the programs and interventions that are most likely to be effective in reaching the intended audience.[847, 848] It is important to remember, however, that youth and young adults are a diverse population and that education and awareness programs may need to be tailored to the needs of different sub-populations. Active and ongoing engagement from youth and young adults will work towards reaching diverse populations.

Building and maintaining supportive and caring environments

The environments where youth and young adults live play a significant role in their health and well-being. Governments at all levels have a role in building and sustaining supportive and caring environments. But, as with most public health issues, close collaboration across sectors, jurisdictions and levels is essential. To be successful, governments, communities, individuals and families must work together. As a society, Canada must ensure there are opportunities for recreation, physical activity, employment, health care and social engagement for all Canadians.

In most cases, strong and supportive environments encourage youth and young adults to develop positive relationships with others (e.g. parents, peers, mentors, etc.) so that resilience and competence can be developed to overcome adversity and challenges.[456, 849] Programs that strengthen positive and supportive relationships between parents or adults and teens are important in bridging the gap between youth and adults.[456]

Interventions need to create environments that support and recognize the unique needs of all youth and young adults. For example, among Aboriginal youth and young adults, living in communities with cultural continuity (traditional teaching, language training, etc.) has been associated with lower levels of substance abuse and suicide.[58, 850, 851] In addition, interventions must offer appropriate services to meet specific needs (e.g. those that are culturally, LGBTQ, and gender appropriate). Supportive environments help create assets that enable individuals to overcome adversity (e.g. discrimination and bullying) often faced by those who are marginalized.

The education sector can play a vital role in creating caring and supportive environments. Schools and post-secondary institutions provide an environment to promote health, guide our young people to various career paths and develop their social skills. As mentioned in Chapter 4, a variety of effective school-based programs have provided information and influenced behaviours and health outcomes in the areas of sexually transmitted infections (STIs), mental health and social relationships. Continuing to strengthen the relationship between the health and education sector is an important and powerful partnership that can support healthy transitions into the future.

Supportive and caring environments involve the active and ongoing engagement of youth and young adults. It is through such engagement that young people can gain a sense of empowerment, support their leadership capabilities, make healthy connections with others and their community, and reduce the risk of negative behaviour. More importantly, youth engagement provides realistic and plausible solutions to issues that affect youth and young adults.[10, 848, 852, 853] Engaging youth and young adults allows them to take charge of their future.

Society as a whole can influence the success – and hence health and well-being – of youth and young adults by setting clear limits, providing good examples and trusting that they will use the knowledge and the tools provided to make appropriate healthy choices. Creating healthy and supportive environments is an enormous task that involves a whole-of-society approach. However, the range of community-based programs presented in this report is evidence of the impact that can be made. The key will be building on these successes as we move forward to foster and strengthen supportive environments for Canadian youth and young adults.

Approaching problems from all sides with co-ordinated, multi-pronged, inter-sectoral action

Public health issues are generally not overcome by simple means or singular approaches – nor by the action of a single jurisdiction or community acting alone. Increasingly, the role of the public health sector includes being a knowledge broker and advocate for all sectors working together. Addressing public health issues for youth and young adults should involve many approaches, from broad strategies to targeted initiatives. All sectors must act together on different fronts (e.g. community action, education, campaigns and legislation) to prevent or mitigate negative health outcomes. Strategies that combine several approaches have been effective, especially when sustained over a significant period. For example, Canada has been successful in reducing smoking rates and in dissuading young people from starting smoking. Legislation preventing the advertising and sale of tobacco products to youth along with the banning of smoking in public places has most likely contributed to the reduction in smoking among youth and young adults.[154, 854, 855] School-based programs, the financial cost of smoking, cigarette taxes and social marketing campaigns have also made large contributions.[818, 823, 855, 856]

Federal and provincial/territorial governments are using a similar approach to address the growing concern over unhealthy weights among youth and young adults, many of whom are either overweight, obese or at risk of developing an unhealthy weight. *Our Health Our Future: A National Dialogue on Healthy Weights* is a federal/provincial/territorial initiative recently launched to engage Canadians and stakeholders in an open dialogue on healthy weights through marketing and social networking and engaging young Canadians.[857]

Canadian youth and young adults are a diverse population and as such, programs and interventions must be specifically designed to meet their needs and circumstances. Multi-pronged approaches are important as they can tackle issues on different fronts. Using different tactics can increase the reach of a strategy, allowing it to resonate with different groups of youth and young adults. Although there are effective programs and initiatives in place, we need to supplement these efforts. Interventions must be appropriately balanced between targeted and universal programs and must address Canada's geography, diversity and the needs of those most vulnerable to particular public health issues.

Making progress

Canada has had success in developing the conditions necessary for people to be healthy. Nevertheless, there are still persistent, worrying and emerging issues that underline the need for additional efforts to ensure a better future for Canada's youth and young adults. The priority areas for action outlined above will do much for improving the health and well-being of young Canadians.

Taking action requires time, effort and resources. These efforts, if made today, will have a positive impact not only on the current health of youth and young adults but also their future health. Better evidence and supportive environments are essential components to ensuring the healthy transitions of youth and young adults. In addition, Canada can learn, adapt and build on successes to ensure that no one is left behind. Adolescence and young adulthood are times of significant growth, risk-taking and experimentation. Those who grow up in a supportive environment tend to fare better when faced with adversities. As a society, we can foster a supportive environment that enhances health and well-being for all young people.

Canada needs to continue to support long-term, multi-pronged and multi-sectoral approaches that address key public health issues – often beginning in adolescence and young adulthood – and can significantly impact the lifecourse. Evidence from Canada and other countries has shown that negative outcomes related to youth and young adults can be successfully reduced or mitigated. Supporting young Canadians makes good sense because their positive development will lead to a healthier, happier and more productive society.

CHAPTER 5 Moving Forward – Priority Areas for Action

– From Words to Action –

In this report, I have tried to emphasize the state of health of Canada's youth and young adults and point to the important role of supportive environments and positive influences in preparing young people for the responsibility of adulthood.

We have made significant progress in helping youth and young adults transition, but there are some troubling and persistent, worrying and emerging issues over which we will need to triumph. I wanted this report to show that it is never too late to make a positive change to the lifecourse and supporting programs that strengthen the health and well-being of youth and young adults can have an impact that lasts well into their old age.

Generally, adolescence and young adulthood is a period equated with good health, but also with experimentation and risk-taking. In Canada, we have been successful in creating the conditions for young people to thrive. We need to continue to build on our successes and be attuned to the diversity that exists within this group and the many interconnecting influences of gender, culture and race. We must step up our efforts in areas where there is danger of losing ground so that no one is left behind.

The priorities identified in this report will require a collaborative approach. To advance the work needed to improve the health and well-being of youth and young adults, as Canada's Chief Public Health Officer, I will:

- work with my counterparts to create and foster initiatives that provide supportive environments for our youth and young adults;
- work with my colleagues and with those in other sectors to promote and develop policies that support healthy physical and emotional development;
- monitor the health and development of Canada's young people and work to improve data and knowledge sharing;
- work with my counterparts to promote positive mental health to youth and young adults;
- continue to support public health initiatives that show promise in successfully helping transitions into adulthood; and
- engage youth in efforts that promote and enhance their health and well-being.

— Dr. David Butler-Jones

Unite and Ignite Youth Engagement Conference

The Public Health Agency of Canada had the opportunity to engage youth and young adult representatives at the 2011 Unite and Ignite Conference held in Ottawa. It was gratifying to see youth and young adults engage in discussions and that they reported that the issues presented in this report resonate with their age group.

In fact, they expressed their desire to be more engaged in future discussions to bridge the gap between youth and adults. They explained that young people wanted to build relationships with adults by creating opportunities for communication, respect and a chance to be valued. Rather than being told what to do, they wanted to participate in creating cultural shifts and changing negative behaviours. The youth at the conference were also concerned with how to engage other young people.

Conference participants indicated that there is a need for more support groups at a community level for suicide survivors (those who have attempted suicide or lost a loved one to suicide). They suggested that developing a safe space for healing and moving through the stages of grief is important. As well, youth suggested that prevention of youth suicide can be achieved through education and building emotional intelligence. They envisioned support for community programs that could be led by young adult leaders.

In terms of substance abuse, many said that they would like someone with first-hand experience to discuss "honest" solution-based education that is non-judgmental and stigma-free. Youth believe that government support for youth-led programming will help reduce risks and create effective engagement strategies. They believe that by supporting positive alternatives, risky behaviours will be reduced and benefits will be seen in mental and physical health.

The conference participants indicated that greater awareness about the factors leading to homelessness would be useful. They believe that all Canadians should be concerned about the issue of street-involved youth and homelessness. Suggested solutions included additional investments for new facilities and improvements to existing ones so that basic needs are met and rehabilitation services are available to those who need them. Resources should be made available for qualified and dedicated staff to mentor and support the youth.

In response to the growing concern around bullying, young people at the conference said they would like to see both urban and rural communities across Canada receive professional medical and community support for promoting mental health and providing treatment. Since cyber-bullying is on the rise, they also encouraged additional training in the responsible use of social media for both users and social media providers.

Participants, including Aboriginal youth and young adults, also stated that they would like to see more opportunities for Aboriginal and non-Aboriginal people to gain a greater awareness of each other's culture. They suggested that to raise awareness about Aboriginal culture, classes on drum-making and on Aboriginal history and languages could be include in both mainstream and Aboriginal school curricula.[29]

Many participants observed that there are obvious opportunities to work with youth and young adults to create better health outcomes. Decision-makers need to develop these important relationships to engage youth and to obtain their valuable insight into improving the health and well-being of youth and young adults.[29]

> *"I think that kids will be kids. Let them have their own life with their own decisions like you had in your past life… They aren't anymore different than you were in your life, so let them have a life they will always remember."*
> – Youth conference participant (2011)

List of Acronyms

APPENDIX A

ADI	Aboriginal Diabetes Initiative
AHS	Adolescent Health Survey
AIDS	Acquired immunodeficiency syndrome
AII	Alcohol Ignition Interlocks
APS	Aboriginal Peoples Survey
ASIST	Applied Suicide Intervention Skills Training
ASMR	Age-standardized mortality rate
BMI	Body mass index
CADUMS	Canadian Alcohol and Drug Use Monitoring Survey
CAHRD	Centre for Aboriginal Human Resource Development Inc.
CAMH	Centre for Addiction and Mental Health
CAMIMH	Canadian Alliance on Mental Illness and Mental Health
CBT	Cognitive behavioural therapy
CCHS	Canadian Community Health Survey
CCMED	Canadian Coroner and Medical Examiner Database
CCOHS	Canadian Centre for Occupational Health and Safety
CHIRPP	Canadian Hospitals Injury Reporting and Prevention Program
CHVI	Canadian HIV Vaccine Initiative
CIHR	Canadian Institutes of Health Research
CIS	Canadian Incidence Study of Reported Child Abuse and Neglect
CNDSS	Canadian Notifiable Disease Surveillance System
CPHO	Chief Public Health Officer
CPNP	Canada Prenatal Nutrition Program
CPNP-FNIC	Canada Prenatal Nutrition Program-First Nations and Inuit Component
CPSS	Canadian Perinatal Surveillance System
CSEP	Canadian Society for Exercise Physiology
CSH	Comprehensive school health
CTC	Communities That Care
DARE	Drug Abuse Resistance Education
E-SYS	Enhanced Surveillance of Canadian Street Youth
FASD	Fetal alcohol spectrum disorder
GPS	Global positioning system
HAES	Health at Every Size
HBSC	Health Behaviour in School-aged Children
HBV	Hepatitis B virus
HCV	Hepatitis C virus
HIFIS	Homeless Individuals and Families Information System
HIV	Human immunodeficiency virus
HPS	Homelessness Partnering Strategy

APPENDIX A
List of Acronyms

HPV	Human papillomavirus
IWH	Institute for Work & Health
JCSH	Joint Consortium for School Health
LGBTQ	Lesbian, gay, bisexual, transgender or questioning
LICO	Low income cut-off
LIFE	Living is for Everyone
MADD	Mothers Against Drunk Driving
MCH	Maternal and Child Health
MES	Maternity Experiences Survey
MHCC	Mental Health Commission of Canada
MHFA	Mental Health First Aid
MMR	Measles, mumps, rubella
MWAC	First Nations and Inuit Mental Wellness Advisory Committee
NACRS	National Ambulatory Care Reporting System
NADS	National Anti-Drug Strategy
NDSS	National Diabetes Surveillance System
NIS	National Immunization Strategy
NLSCY	National Longitudinal Survey of Children and Youth
NPHS	National Population Health Survey
NSSI	Non-suicidal self-injury
OECD	Organisation for Economic Co-operation and Development
PACT	Partnership to Assist with Cessation of Tobacco
PAHO	Pan American Health Organization
PFD	Personal floatation device
PHAC	Public Health Agency of Canada
PID	Pelvic inflammatory disease
PREVNet	Promoting Relationships and Eliminating Violence Network
RHS	First Nations Regional Longitudinal Health Survey
RIDE	Reduce Impaired Driving Everywhere
RRC	Resilience Research Centre
SADD	Students Against Destructive Decisions
SHAHRP	School Health and Alcohol Harm Reduction Project
STI	Sexually transmitted infection
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNICEF	United Nations Children's Fund
UNODC	United Nations Office on Drugs and Crime
WHMIS	Workplace Hazardous Materials Information System
WHO	World Health Organization
WSIB	Workplace Safety and Insurance Board

YCW	Young Canada Works
YES	Youth Employment Strategy
YITS	Youth in Transition Survey
YRP	Youth Relationships Project
YSS	Youth Smoking Survey

APPENDIX B

Indicators of Our Health and Factors Influencing Our Health

Table B.1 Who we are

Who we are (million people)		**Year**
Population (as of July 1, 2010)	34.1	2010
Aboriginal	*1.17*	*2006*
First Nations	*0.70*	*2006*
Inuit	*0.05*	*2006*
Métis	*0.39*	*2006*
Immigrant	*6.2*	*2006*
By birth place		
Africa	*0.37*	*2006*
Asia and the Middle East	*2.53*	*2006*
Caribbean and Bermuda	*0.32*	*2006*
Central America	*0.13*	*2006*
Europe	*2.28*	*2006*
*Oceania and other**	*0.06*	*2006*
South America	*0.25*	*2006*
United States of America	*0.25*	*2006*
By years since immigration		
Recent (<= 10 years)	*2.0*	*2006*
Long-term (>10 years)	*4.2*	*2006*
Urban population	*25.4*	*2006*

Note: Italicized information denotes indicators that have not changed from the previous *The Chief Public Health Officer's Report on the State of Public Health in Canada, 2010*. Some data may not be comparable. More detailed information can be found in Appendix C: Definitions and Data Sources for Indicators.

* 'Other' includes Greenland, Saint Pierre and Miquelon, the category 'Other country,' as well as immigrants born in Canada.

Source: Statistics Canada.

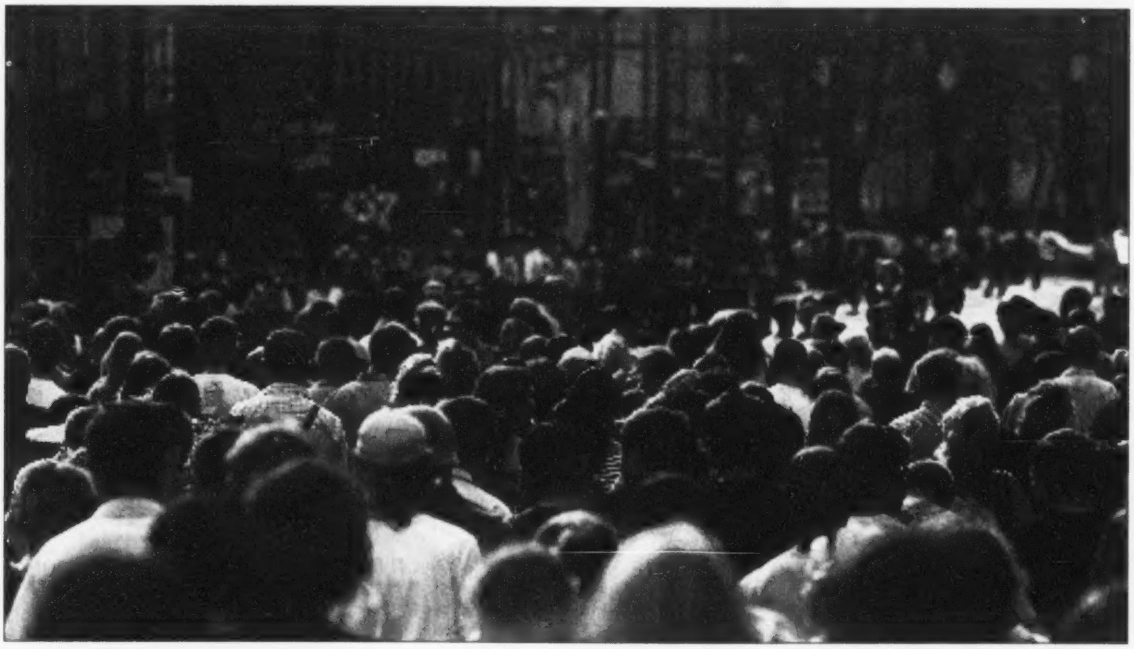


Table B.2 Our health status

Our health status		Year
Life expectancy and reported health		
Life expectancy at birth (years of expected life)	*80.7*	*2005-2007*
Health-adjusted life expectancy at birth (years of expected healthy life)	*69.6*	*2001*
Infant mortality rate (under one year) (deaths per 1,000 live births)	*5.1*	*2007*
Perceived health, very good or excellent* (percent of population aged 12+ years)	60.5	2009
Perceived mental health, very good or excellent* (percent of population aged 12+ years)	73.9	2009
Leading causes of mortality (deaths per 100,000 population per year)		
Circulatory diseases	212.1	2007
Cancers	211.3	2007
Respiratory diseases	62.3	2007
Causes of premature mortality, aged 0 to 74 years (potential years of life lost per 100,000 population per year)		
Cancers	1,517	2005-2007
Circulatory diseases	776	2005-2007
Unintentional injuries	602	2005-2007
Suicide and self-inflicted injuries	346	2005-2007
Respiratory diseases	174	2005-2007
HIV	40	2005-2007
Living with chronic diseases		
Cancer incidence (new cases age-standardized per 100,000 population)	403	2010
Diabetes prevalence (percent of the population aged 1+ years)	6.2	2006-2007
Obesity (percent of the population aged 18+ years)	23.9	2007-2009
Arthritis* (percent of the population aged 14+ years)	15.2	2009
Asthma* (percent of the population aged 12+ years)	8.1	2009
Heart disease* (percent of the population aged 12+ years)	4.6	2009
High blood pressure* (percent of the population aged 20+ years)	19.9	2009
Chronic obstructive pulmonary disease* (percent of the population aged 35+ years)	4.2	2009
Living with mental illness population aged 15+ years (percent)		
*Schizophrenia**	*0.3*	*2005*
*Major depression**	*4.8*	*2002*
*Alcohol dependence**	*2.6*	*2002*
Anxiety disorders*	5.2	2009
Alzheimer's and other dementias (estimated percent of the population aged 65+ years)*	*8.9*	*2008*
Acquiring infectious diseases		
HIV (number of positive HIV tests)	2,417	2009
Chlamydia (new cases per 100,000 population annually)	258.5	2009
Gonorrhea (new cases per 100,000 population annually)	33.1	2009
Infectious syphilis (new cases per 100,000 population annually)	5.0	2009

* Denotes self-reported data

Note: Italicized information denotes indicators that have not changed from the previous *The Chief Public Health Officer's Report on the State of Public Health in Canada, 2010*. Some data may not be comparable. More detailed information can be found in Appendix C: Definitions and Data Sources for Indicators.

Sources: Statistics Canada, Canadian Cancer Society, Public Health Agency of Canada and Alzheimer Society of Canada.

Table B.3 Factors influencing our health

Factors influencing our health		Year
Income (percent of the population, based on 1992 low income cut-off)		
Persons living in low-income (after tax)	9.6	2009
Employment and working conditions, population aged 15+ years (percent)		
Unemployment rate	8.0	2010
Food security, population aged 12+ years (percent)		
*People reporting food insecurity**	*9.2*	*2004*
Environment and housing		
Ground-level ozone exposure (parts per billion [population weighted warm season average])	37.5	2008
Fine particulate matter ($PM_{2.5}$) exposure (micrograms per cubic metre [population weighted warm season average])	8.1	2008
Core housing need (percent of the households)*	*12.7*	*2006*
Education and literacy, population aged 25+ years (percent)		
High school graduates	82.8	2010
Some post-secondary education	63.5	2010
Post-secondary graduates	57.6	2010
Social support and connectedness		
Sense of community belonging, somewhat or very strong* (percent of the population aged 12+ years)	65.4	2009
Violent crime incidents (per 100,000 population)	1,314	2009
Health behaviours		
Current smoker* (percent of the population aged 15+ years)	17.5	2009
Engaged in leisure time physical activity, moderately active or active* (percent of the population aged 12+ years)	52.5	2009
Fruit and vegetable consumption (5+ times per day)* (percent of the population aged 12+ years)	45.6	2009
Heavy drinking (5+ drinks on one occasion at least once a month in the past year)* (percent of the population aged 12+ years)	17.2	2009
Illicit drug use in the past year* (percent of the population aged 25+ years)	11.4	2009
Teen pregnancy rate (pregnancy per 1,000 female population aged 15 to 19 years per year)	14.3	2008
Access to health care, population aged 12+ years (percent)		
Regular family physician*	84.9	2009
Contact with dental professional*	72.0	2009

* Denotes self-reported data

Note: Italicized information denotes indicators that have not changed from the previous *The Chief Public Health Officer's Report on the State of Public Health in Canada, 2010*. Some data may not be comparable. More detailed information can be found in Appendix C: Definitions and Data Sources for Indicators.

Sources: Statistics Canada, Health Canada, Environment Canada and Canada Mortgage and Housing Corporation.

Definitions and Data Sources for Indicators

APPENDIX C

- A -

Aboriginal (2006)[15]

This is a collective name for the original peoples of North America and their descendants. The *Constitution Act* of 1982 recognizes three groups of Aboriginal peoples – Indians, Inuit and Métis – each having unique heritages, languages, cultural practices and spiritual beliefs.

Data Source

Table 3.1: Statistics Canada. (2010-12-01). *Age groups, Rural/Urban area, Immigrant status, Aboriginal Identity and Sex for Persons 12 to 29 years of age in Private Households of Canada, 2006 Census – 20% sample data* [Custom Data File].

Table B.1: Statistics Canada. (2010-10-06). *Aboriginal identity population by age groups, median age and sex, 2006 counts for both sexes, for Canada, provinces and territories – 20% sample data* [Data File].

First Nations (single response) (2006)[15, 858]

A term commonly used beginning in the 1970s to replace Indian. Although the term First Nation is widely used, no legal definition of it exists. Among its uses, the term 'First Nations peoples' refers generally to the Indian Peoples in Canada, both Status and Non-Status. Single identity refers to those persons who reported identifying with First Nations only.

Data Source

Table 3.1: Statistics Canada. (2010-12-01). *Age groups, Rural/Urban area, Immigrant status, Aboriginal Identity and Sex for Persons 12 to 29 years of age in Private Households of Canada, 2006 Census – 20% sample data* [Custom Data File].

Table B.1: Statistics Canada. (2010-10-06). *Aboriginal identity population by age groups, median age and sex, 2006 counts for both sexes, for Canada, provinces and territories – 20% sample data* [Data File].

Inuit (single response) (2006)[15, 858]

Inuit are the Aboriginal People of Arctic Canada who live primarily in Nunavut, the Northwest Territories and northern parts of Labrador and Quebec. Single identity refers to those persons who reported identifying with Inuit only.

Data Source

Table 3.1: Statistics Canada. (2010-12-01). *Age groups, Rural/Urban area, Immigrant status, Aboriginal Identity and Sex for Persons 12 to 29 years of age in Private Households of Canada, 2006 Census – 20% sample data* [Custom Data File].

Table B.1: Statistics Canada. (2010-10-06). *Aboriginal identity population by age groups, median age and sex, 2006 counts for both sexes, for Canada, provinces and territories – 20% sample data* [Data File].

Métis (single response) (2006)[15, 858]

A term which is used broadly to describe people with mixed First Nations and European ancestry who identify themselves as Métis, distinct from Indian people, Inuit or non-Aboriginal people. Single identity refers to those persons who reported identifying with Métis only.

Data Source

Table 3.1: Statistics Canada. (2010-12-01). *Age groups, Rural/Urban area, Immigrant status, Aboriginal Identity and Sex for Persons 12 to 29 years of age in Private Households of Canada, 2006 Census – 20% sample data* [Custom Data File].

Table B.1: Statistics Canada. (2010-10-06). *Aboriginal identity population by age groups, median age and sex, 2006 counts for both sexes, for Canada, provinces and territories – 20% sample data* [Data File].

Alcohol dependence (2002)[210, 859]

Alcohol dependence is defined as tolerance, withdrawal, loss of control or social or physical problems related to alcohol use. This measure was estimated using the Alcohol Dependence Scale (Short Form Score) based on a subset of items from the Composite International Diagnostic Interview developed by Kessler and Mroczek for those aged 15 years and older.

Data Source

Table B.2: Government of Canada. (2006). *The Human Face of Mental Health and Mental Illness in Canada.*

Alzheimer's disease and other dementias (2008)[860]

The DSM-III-R criteria were used to classify people as demented or not. Differential diagnoses used the NINCDS-ADRDA and DSM-IV criteria for Alzheimer's disease; the ICD-10 and the NINDS-AIREN criteria were used to define vascular dementia; operational criteria for Lewy body dementia were taken from McKeith et al. (1996). Those without dementia were classified as cognitively impaired but not demented (CIND), or as cognitively normal. Reisberg's Global Deterioration Scale was used for rating cognitive and functional capacity in all diagnoses.

Data Source

Table B.2: Smetanin, P., Kobak, P., Briante, C., Stiff, D., Sherman, G., & Ahmad, S. (2009). *Rising Tide: The Impact of Dementia in Canada 2008 to 2038;* and Statistics Canada. *CANSIM Table 051-0001 Estimates of population, by age group and sex for July 1, Canada, provinces and territories, annual.* All computations on these microdata were prepared by Public Health Agency of Canada and the responsibility for the use and interpretation of these data is entirely that of the author(s).

Anxiety disorders (2009)[210, 861]

Individuals with anxiety disorders experience excessive anxiety, fear or worry, causing them to either avoid situations that might precipitate the anxiety or develop compulsive rituals that lessen the anxiety. This measure was estimated as the population who reported that they have been diagnosed by a health professional as having a phobia, obsessive-compulsive disorder or a panic disorder.

Data Source

Table 3.4 Statistics Canada. *Canadian Community Health Survey, 2009: Annual* [Share Microdata File]. Ottawa, Ontario: Statistics Canada. All computations on these microdata were prepared by Public Health Agency of Canada and the responsibility for the use and interpretation of these data is entirely that of the author(s).
Table B.2: Statistics Canada. *Canadian Community Health Survey, 2009: Annual* [Share Microdata File]. Ottawa, Ontario: Statistics Canada. All computations on these microdata were prepared by Public Health Agency of Canada and the responsibility for the use and interpretation of these data is entirely that of the author(s).

Arthritis (2009)[221]

Population who reported having arthritis, including rheumatoid arthritis and osteoarthritis, but excluding fibromyalgia, as diagnosed by a health professional.

Data Source

Table B.2: Statistics Canada. (2011-06-28). *CANSIM Table 105-0501 Health indicator profile, annual estimates, by age group and sex, Canada, provinces, territories, health regions (2007 boundaries) and peer groups, occasional* [Data File].

Asthma (2009)[221]

Population who reported having asthma as diagnosed by a health professional.

Data Source

Table 3.6: Statistics Canada. *Canadian Community Health Survey, 2009: Annual* [Share Microdata File]. Ottawa, Ontario: Statistics Canada. All computations on these microdata were prepared by Public Health Agency of Canada and the responsibility for the use and interpretation of these data is entirely that of the author(s).
Table B.2: Statistics Canada. (2011-06-28). *CANSIM Table 105-0501 Health indicator profile, annual estimates, by age group and sex, Canada, provinces, territories, health regions (2007 boundaries) and peer groups, occasional* [Data File].

Average after-tax annual income (2008)[862]

Average income after tax is total income, which includes government transfers, less income tax.

Data Source

Table 3.2: Statistics Canada. (2010-12-01). *Average before and after tax income, Canada, (current dollars)* [Custom Data File].

- C -

Cancer incidence (2007, 2010)[863]

Estimated number of people diagnosed with new primary sites of cancers.

Data Source

Table 3.6: Public Health Agency of Canada, Canadian Council of Cancer Registries, and Statistics Canada. (2009-11-17). *Cancer Surveillance On-Line* [Data File] and Statistics Canada. *CANSIM Table 051-0001 Estimates of population, by age group and sex for July 1, Canada, provinces and territories, annual.* All computations on these microdata were prepared by Public Health Agency of Canada and the responsibility for the use and interpretation of these data is entirely that of the author(s).
Table B.2: Canadian Cancer Society's Steering Committee. (2010). *Canadian Cancer Statistics, 2010.* (Toronto: Canadian Cancer Society).

Cancers (2007)[864]

Deaths associated with malignant cancers (ICD-10 C00-C97) including but not limited to cancers of the lymph nodes, blood, brain and urinary tract.

Data Source

Table 3.5: Statistics Canada. (2010-12-07). *Deaths 2007, All Chapters* [Custom Data File] and Statistics Canada. *CANSIM Table 051-0001 Estimates of population, by age group and sex for July 1, Canada, provinces and territories, annual.* All computations on these microdata were prepared by Public Health Agency of Canada and the responsibility for the use and interpretation of these data is entirely that of the author(s).
Table B.2: Statistics Canada. (2010-11-08). *CANSIM Table 102-0522 Deaths, by cause, Chapter II: Neoplasms (C00 to D48), age group and sex, Canada, annual* [Data File]; and Statistics Canada. *CANSIM Table 051-0001 Estimates of population, by age group and sex for July 1, Canada, provinces and territories, annual.* All computations on these microdata were prepared by Public Health Agency of Canada and the responsibility for the use and interpretation of these data is entirely that of the author(s).

Chlamydia (2009)[865]

Estimated rate per 100,000 population, where Chlamydia (*Chlamydia trachomatis*) has been identified through laboratory testing.

Data Source

Table 3.6: Public Health Agency of Canada. (2011-02-22). *Reported cases and rates of chlamydia by age group and sex, 1991 to 2009* [Data File]; and Statistics Canada. (2010-06-18). *Table 8 Estimated population by age group and sex, Canada, provinces and territories, July 1st, 2009* [Data File].

Table B.2: Public Health Agency of Canada. (2011-02-22). *Reported cases and rates of chlamydia by age group and sex, 1991 to 2009* [Data File].

Cannabis use in the past year (2009)[866]

Persons who reported using cannabis in the 12 months preceding the interview.

Data Source

Table 3.7: Health Canada. *Canadian Alcohol and Drug Use Monitoring Survey, 2009* [Public-Use Microdata File]. Ottawa, Ontario: Health Canada. All computations on these microdata were prepared by Public Health Agency of Canada and the responsibility for the use and interpretation of these data is entirely that of the author(s).

Chronic obstructive pulmonary disease (2009)[861]

Respondents who reported having chronic obstructive pulmonary disease, chronic bronchitis or emphysema.

Data Source

Table B.2: Statistics Canada. *Canadian Community Health Survey, 2009: Annual* [Share Microdata File]. Ottawa, Ontario: Statistics Canada. All computations on these microdata were prepared by Public Health Agency of Canada and the responsibility for the use and interpretation of these data is entirely that of the author(s).

Circulatory diseases (2007)[867]

Deaths associated with circulatory diseases (ICD I00-I99) including but not limited to ischaemic heart disease, cerebrovascular diseases and pulmonary heart conditions.

Data Source

Table 3.5: Statistics Canada. (2010-12-07). *Deaths 2007, All Chapters* [Custom Data File] and Statistics Canada. *CANSIM Table 051-0001 Estimates of population, by age group and sex for July 1, Canada, provinces and territories, annual*. All computations on these microdata were prepared by Public Health Agency of Canada and the responsibility for the use and interpretation of these data is entirely that of the author(s).

Table B.2: Statistics Canada. (2010-11-08). *CANSIM Table 102-0529 Deaths, by cause, Chapter IX: Diseases of the circulatory system (I00 to I99), age group and sex, Canada, annual* [Data File]; and Statistics Canada. *CANSIM Table 051-0001 Estimates of population, by age group and sex for July 1, Canada, provinces and territories, annual*. All computations on these microdata were prepared by Public Health Agency of Canada and the responsibility for the use and interpretation of these data is entirely that of the author(s).

Contact with dental professional in the past 12 months (2009)[861]

Persons who have consulted with a dental professional in the past 12 months.

Data Source

Table B.3: Statistics Canada. *Canadian Community Health Survey, 2009: Annual* [Share Microdata File]. Ottawa, Ontario: Statistics Canada. All computations on these microdata were prepared by Public Health Agency of Canada and the responsibility for the use and interpretation of these data is entirely that of the author(s).

Core housing need (2006)[868]

A household is in core housing need if it does not meet one or more of the adequacy, suitability or affordability standards and would have to spend 30 per cent or more of its before-tax income to pay the median rate of alternative local market housing that meets all three standards. Adequate housing does not require any major repairs. Suitable housing has enough bedrooms for the size and make-up of resident households according to National Occupancy Standard requirements. Affordable housing costs less than 30 per cent of before-tax household income.

Data Source

Table B.3: Canada Mortgage and Housing Corporation. (2009). *2006 Census Housing Series: Issue 3 – The Adequacy, Suitability, and Affordability of Canadian Housing, 1991-2006.*

Definitions and Data Sources for Indicators

Current smoker (2009)[760]

Respondents who have identified themselves as daily smokers and non-daily smokers (also known as occasional smokers).

Data Source

Table 3.7: Statistics Canada. *Canadian Tobacco Use Monitoring Survey, 2009: Annual, Person File* [Share Microdata File]. Ottawa, Ontario: Statistics Canada. All computations on these microdata were prepared by Public Health Agency of Canada and the responsibility for the use and interpretation of these data is entirely that of the author(s).

Table B.3: Health Canada. (2010-09-27). *Table 1. Smoking status and average number of cigarettes smoked per day, by age group and sex, age 15+ years, Canada 2009* [Data File].

- D -

Diabetes prevalence (2004-2005, 2006-2007)[869]

The proportion of individuals that are affected by diagnosed diabetes at a given point in time and had at least one hospitalization with a diagnosis of diabetes or had at least two physician visits with a diagnosis of diabetes within a two-year period.

Data Source

Table 3.6: Public Health Agency of Canada. (2008-07-25). *Diabetes Data – NDSS 2000-2001 to 2004-2005 Canadian, Provincial, and Territorial Data Tables (PDF) and Research Files (CSV)* [Data File].

Table B.2: Public Health Agency of Canada. (2009). *Report from the National Diabetes Surveillance System: Diabetes in Canada, 2009.*

- E -

Engaged in leisure-time physical activity, moderately active or active (2009)[221]

Population who reported a level of physical activity, based on their responses to questions about the nature, frequency and duration of their participation in leisure-time physical activity. Respondents are classified as active, moderately active or inactive based on an index of average daily physical activity over the past three months. For each leisure-time physical activity engaged in by the respondent, average daily energy expenditure is calculated by multiplying the number of times the activity was performed by the average duration of the activity by the energy cost (kilocalories per kilogram of body weight per hour) of the activity. The index is calculated as the sum of the average daily energy expenditures of all activities. Respondents are classified as follows:

- 3.0 kcal/kg/day or more = physically active
- 1.5 to 2.9 kcal/kg/day = moderately active
- less than 1.5 kcal/kg/day = inactive

Data Source

Table B.3: Statistics Canada. (2011-06-28). *CANSIM Table 105-0501 Health indicator profile, annual estimates, by age group and sex, Canada, provinces, territories, health regions (2007 boundaries) and peer groups, occasional* [Data File].

- F -

Fine particulate matter ($PM_{2.5}$) exposure (2008)[870]

This indicator uses the warm seasonal (April 1 to September 30) average of 24-hour daily average concentrations, which is population-weighted to calculate trends and averages across monitoring stations located throughout the country.

Data Source

Table B.3: Environment Canada. (2010-11-10). *Air Quality Data* [Data File].

First Nations (2006)

See Aboriginal

Fruit and vegetable consumption (5+ times a day) (2009)[221]

Indicates the usual number of times (frequency) per day a person reported eating fruits and vegetables. Measure does not take into account the amount consumed.

Data Source

Table B.3: Statistics Canada. (2011-06-28). *CANSIM Table 105-0501 Health indicator profile, annual estimates, by age group and sex, Canada, provinces, territories, health regions (2007 boundaries) and peer groups, occasional* [Data File].

- G -

Gonorrhea (2009)[865]

Estimated rate per 100,000 population, where Gonorrhea (*Neisseria gonorrhoeae*) has been identified through laboratory testing.

Data Source
Table 3.6: Public Health Agency of Canada. (2011-02-22). *Reported cases and rates of gonorrhea by age group and sex, 1980 to 2009* [Data File]; and Statistics Canada. (2010-06-18). *Table 8 Estimated population by age group and sex, Canada, provinces and territories, July 1st, 2009* [Data File]
Table B.2: Public Health Agency of Canada. (2011-02-22). *Reported cases and rates of gonorrhea by age group and sex, 1980 to 2009* [Data File]

Ground-level ozone exposure (2008)[870]

This indicator uses the warm seasonal (April 1 to September 30) average of daily eight-hour maximum average concentrations, which is population-weighted to calculate trends and averages across monitoring stations located throughout the country.

Data Source
Table B.3: Environment Canada. (2010-11-10). *Air Quality Data* [Data File].

- H -

Health-adjusted life expectancy (2001)[871]

An indicator of overall population health that combines measures of both age- and sex-specific health status, and age- and sex-specific mortality into a single statistic. It represents the number of expected years of life equivalent to years lived in full health, based on the average experience in a population.

Data Source
Table B.2: Statistics Canada. (2007-05-17). *CANSIM Table 102-0121 Health-adjusted life expectancy, at birth and at age 65, by sex and income group, Canada and provinces, occasional (years)* [Data File].

Heart disease (2009)[861]

Respondents who reported having heart disease.

Data Source
Table B.2: Statistics Canada. *Canadian Community Health Survey, 2009: Annual* [Share Microdata File]. Ottawa, Ontario: Statistics Canada. All computations on these microdata were prepared by Public Health Agency of Canada and the responsibility for the use and interpretation of these data is entirely that of the author(s).

Heavy drinking (5+ drinks on one occasion at least once a month in the past year) (2009)[221]

Population who reported having at least five drinks on a single occasion each month for the past 12 months.

Data Source
Table 3.7: Statistics Canada. *Canadian Community Health Survey, 2009: Annual* [Share Microdata File]. Ottawa, Ontario: Statistics Canada. All computations on these microdata were prepared by Public Health Agency of Canada and the responsibility for the use and interpretation of these data is entirely that of the author(s).
Table B.3: Statistics Canada. (2011-06-28). *CANSIM Table 105-0501 Health indicator profile, annual estimates, by age group and sex, Canada, provinces, territories, health regions (2007 boundaries) and peer groups, occasional* [Data File].

High blood pressure (2009)[861]

Respondents who reported having high blood pressure or having used blood pressure medication in the past month.

Data Source
Table B.2: Statistics Canada. *Canadian Community Health Survey, 2009: Annual* [Share Microdata File]. Ottawa, Ontario: Statistics Canada. All computations on these microdata were prepared by Public Health Agency of Canada and the responsibility for the use and interpretation of these data is entirely that of the author(s).

High school graduates (2009, 2010)[200]

Persons who have received, at minimum, a high school diploma or, in Quebec, a completed Secondary V or, in Newfoundland and Labrador, completed fourth year of secondary.

Data Source
Table 3.2: Statistics Canada. (2010-12-01). *LFS by education, detailed age, sex and province* [Custom Data File].
Table B.3: Statistics Canada. (2011-01-21). *CANSIM Table 282-0004 Labour force survey estimates (LFS), by educational attainment, sex and age group, annual* [Data File].

HIV (2009)[319]

The number of new positive HIV tests occurring in 2009.

Data Source

Table 3.6: Public Health Agency of Canada. (2010). *HIV and AIDS in Canada. Surveillance Report to December 31, 2009*. (Ottawa: Surveillance and Risk Assessment Division, Centre for Communicable Diseases and Infection Control, Public Health Agency of Canada).
Table B.2: Public Health Agency of Canada. (2010). *HIV and AIDS in Canada. Surveillance Report to December 31, 2009*. (Ottawa: Surveillance and Risk Assessment Division, Centre for Communicable Diseases and Infection Control, Public Health Agency of Canada).

Hospitalizations due to injuries (2005/2006)

All records where the underlying cause of hospitalization is classified to ICD-10 Chapter XX, excluding adverse effects due to drugs or medical care.

Data Source

Table 3.6: Canadian Institute for Health Information. *Hospital Morbidity Database, 2006*. All computations on these data were prepared by Public Health Agency of Canada and the responsibility for the use and interpretation of these data is entirely that of the author(s).

- I -

Illicit drug use in the past year (2009)[866]

Persons who reported using an illicit drug (cannabis, cocaine, speed, ecstasy, hallucinogens, salvia or heroin) in the 12 months preceding the interview.

Data Source

Table B.3: Health Canada. (2010-06-30). *Canadian Alcohol and Drug Use Monitoring Survey* [Data File].

Illicit drug use excluding cannabis in the past year (2009)[866]

Persons who reported using an illicit drug (cocaine, speed, ecstasy, hallucinogens, salvia or heroin) in the 12 months preceding the interview.

Data Source

Table 3.7: Health Canada. *Canadian Alcohol and Drug Use Monitoring Survey, 2009* [Public-Use Microdata File]. Ottawa, Ontario: Health Canada. All computations on these microdata were prepared by Public Health Agency of Canada and the responsibility for the use and interpretation of these data is entirely that of the author(s).

Immigrant (2006)[17]

Applies to a person who has been granted the right to permanently live in Canada by immigration authorities. It usually applies to persons born outside Canada but may also apply to a small number of persons born inside Canada to parents who are foreign nationals, and persons who are Canadian by birth born outside Canada to Canadian parents.

Data Source

Table 3.1: Statistics Canada. (2010-12-01). *Age groups, Rural/Urban area, Immigrant status, Aboriginal Identity and Sex for Persons 12 to 29 years of age in Private Households of Canada, 2006 Census – 20% sample data* [Custom Data File].
Table B.1: Statistics Canada. (2010-04-07). *Immigrant Status and Place of Birth, Sex and Age Groups for the Population of Canada, Provinces, Territories, Census Metropolitan Areas and Census Agglomerations, 2006 Census – 20% Sample Data* [Data File].

By birth place (2006)[872]

The concept of place of birth applies to the country of a respondent if born outside Canada. Respondents are to report their place of birth according to international boundaries in effect at the time of enumeration not at the time of birth.

Data Source

Table B.1: Statistics Canada. (2010-04-07). *Immigrant Status and Place of Birth, Sex and Age Groups for the Population of Canada, Provinces, Territories, Census Metropolitan Areas and Census Agglomerations, 2006 Census – 20% Sample Data* [Data File].

By years since immigration (2006)[17]

Year or period of immigration refers to a person who is a landed immigrant by the period of time in which he or she first obtained landed immigrant status.

Data Source

Table B.1: Statistics Canada. (2010-04-07). *Place of Birth, Period of Immigration, Sex and Age Groups for the Immigrant Population of Canada, Provinces, Territories, Census Metropolitan Areas and Census Agglomerations, 2006 Census – 20% Sample Data* [Data File].

Infant mortality rate (under one year) (2007)[873]

Infant mortality rate is the number of infant deaths occurring within the first year of life during a given year per 1,000 live births in the same year.

Data Source
Table B.2: Statistics Canada. (2010-02-22). *CANSIM Table 102-0506 Infant deaths and mortality rates, by age group and sex, Canada, annual* [Data File].

Infectious syphilis (2009)[865]

Estimated rate per 100,000 population, where infectious syphilis (including primary, secondary and early latent stages) has been identified through laboratory testing.

Data Source
Table 3.6: Public Health Agency of Canada. (2011-02-23). *Reported cases and rates of infectious syphilis by age group and sex, 1993 to 2009* [Data File]; and Statistics Canada. (2010-06-18). *Table 8 Estimated population by age group and sex, Canada, provinces and territories, July 1st, 2009* [Data File]
Table B.2: Public Health Agency of Canada. (2011-02-22). *Reported cases and rates of infectious syphilis by age group and sex, 1993 to 2009* [Data File].

Injuries and poisonings (2007)[270]

Deaths associated with injuries and poisonings (ICD-10 V01-Y89) including but not limited to transport incidents, falls, drowning and intentional self-harm.

Data Source
Table 3.5 Statistics Canada. (2010-12-07). *Deaths 2007, All Chapters* [Custom Data File] and Statistics Canada. *CANSIM Table 051-0001 Estimates of population, by age group and sex for July 1, Canada, provinces and territories, annual.* All computations on these microdata were prepared by Public Health Agency of Canada and the responsibility for the use and interpretation of these data is entirely that of the author(s).

Intentional self-harm (2007)[270]

Deaths associated with intentional self-harm (ICD-10 X60-X84) including but not limited to self-poisoning and exposure or self-harm.

Data Source
Table 3.5: Statistics Canada. (2010-12-07). *Deaths 2007, All Chapters* [Custom Data File] and Statistics Canada. *CANSIM Table 051-0001 Estimates of population, by age group and sex for July 1, Canada, provinces and territories, annual.* All computations on these microdata were prepared by Public Health Agency of Canada and the responsibility for the use and interpretation of these data is entirely that of the author(s).

Other unintentional injuries (2007)[270]

Deaths associated with other unintentional injures (ICD-10 W00-X59) including but not limited to falls, accidental poisonings, and accidental drowning.

Data Source
Table 3.5: Statistics Canada. (2010-12-07). *Deaths 2007, All Chapters* [Custom Data File] and Statistics Canada. *CANSIM Table 051-0001 Estimates of population, by age group and sex for July 1, Canada, provinces and territories, annual.* All computations on these microdata were prepared by Public Health Agency of Canada and the responsibility for the use and interpretation of these data is entirely that of the author(s).

Traffic incidents (2007)[270]

Deaths associated with transportation (ICD-10 V01-V99) including but not limited to incidents involving cars, trucks, watercrafts and off-road vehicles.

Data Source
Table 3.5 Statistics Canada. (2010-12-07). *Deaths 2007, All Chapters* [Custom Data File] and Statistics Canada. *CANSIM Table 051-0001 Estimates of population, by age group and sex for July 1, Canada, provinces and territories, annual.* All computations on these microdata were prepared by Public Health Agency of Canada and the responsibility for the use and interpretation of these data is entirely that of the author(s).

Inuit (2006)

See Aboriginal

- L -

Life expectancy at birth (2005-2007)[874]

Life expectancy is the number of years a person would be expected to live, starting at birth (for life expectancy at birth) or at age 65 (for life expectancy at age 65) if the age- and sex-specific mortality rates for a given observation period (such as a calendar year) were held constant over his/her life span.

Data Source
Table B.2: Statistics Canada. (2010-02-22). *CANSIM Table 102-0512 Life expectancy, at birth and at age 65, by sex, Canada, provinces and territories, annual* (years) [Data File].

Definitions and Data Sources for Indicators

Life satisfaction, satisfied or very satisfied (2009)[221]

Population who reported being satisfied or very satisfied with their life in general.

Data Source

Table 3.3: Statistics Canada. *Canadian Community Health Survey, 2009: Annual* [Share Microdata File]. Ottawa, Ontario: Statistics Canada. All computations on these microdata were prepared by Public Health Agency of Canada and the responsibility for the use and interpretation of these data is entirely that of the author(s).

- M -

Major depression (2002)[875]

Major depressive disorder is characterized by one or more major depressive episodes (at least two weeks of depressed mood and/or loss of interest in usual activities accompanied by at least four additional symptoms of depression).

- depressed mood most of the day, nearly every day, as indicated by either subjective report (for example, feels sad or empty) or observation made by others (for example, appears tearful);
- markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day (as indicated by either subjective account or observation made by others);
- significant weight loss when not dieting, or weight gain (for example, a change of more than 5% of body weight in a month), or decrease or increase in appetite nearly every day;
- insomnia or hypersomnia nearly every day;
- psychomotor agitation or retardation nearly every day (observable by others, not merely subjective feelings of restlessness or being slowed down);
- fatigue or loss of energy nearly every day;
- feelings of worthlessness or excessive or inappropriate guilt (which may be delusional) nearly every day (not merely self-reproach or guilt about being sick);
- diminished ability to think or concentrate, or indecisiveness, nearly every day (either by subjective account or as observed by others); and
- recurrent thoughts of death (not just fear of dying), recurrent suicidal ideation without a specific plan, or a suicide attempt or a specific plan for committing suicide.

Data Source

Table B.2: Government of Canada. (2006). *The Human Face of Mental Health and Mental Illness in Canada.*

Medically unattended injuries (2009)[861]

Population suffering an injury serious enough to limit normal daily activity but where medical attention was not sought within the 48 hours after the injury.

Data Source

Table 3.6: Statistics Canada. *Canadian Community Health Survey, 2009: Annual* [Share Microdata File]. Ottawa, Ontario: Statistics Canada. All computations on these microdata were prepared by Public Health Agency of Canada and the responsibility for the use and interpretation of these data is entirely that of the author(s).

Métis (2006)

See Aboriginal

Mood disorder (2009)[221]

Population who reported that they have been diagnosed by a health professional as having a mood disorder, such as depression, bipolar disorder, mania or dysthymia.

Data Source

Table 3.4: Statistics Canada. *Canadian Community Health Survey, 2009: Annual* [Share Microdata File]. Ottawa, Ontario: Statistics Canada. All computations on these microdata were prepared by Public Health Agency of Canada and the responsibility for the use and interpretation of these data is entirely that of the author(s).

- N -

Nervous system diseases (2007)[876]

Deaths associated with nervous system diseases (ICD-10 G00-G99) including but not limited to cerebral palsy and muscular dystrophy.

Data Source

Table 3.5: Statistics Canada. (2010-12-07). *Deaths 2007, All Chapters* [Custom Data File] and Statistics Canada. *CANSIM Table 051-0001 Estimates of population, by age group and sex for July 1, Canada, provinces and territories, annual.* All computations on these microdata were prepared by Public Health Agency of Canada and the responsibility for the use and interpretation of these data is entirely that of the author(s).

- O -

Obesity (2007-2009)[221]

According to the WHO and Health Canada guidelines, the index for body weight classification for the population aged 18 years and over, excluding pregnant females and persons less than 3 feet (0.914 metres) tall or greater than 6 feet 11 inches (2.108 metres) is: less than 18.50 (underweight); 18.50 to 24.99 (normal weight); 25.00 to 29.99 (overweight); 30.00 to 34.99 (obese, class I); 35.00 to 39.99 (obese, class II); 40.00 or greater (obese, class III).

Body mass index (BMI) is calculated by dividing the respondent's body weight (in kilograms) by their height (in metres) squared.

Data Source

Table B.2: Statistics Canada. *Canadian Health Measures Survey, 2007-2009: Cycle 1* [Share Microdata File]. Ottawa, Ontario: Statistics Canada. All computations on these microdata were prepared by Public Health Agency of Canada and the responsibility for the use and interpretation of these data is entirely that of the author(s).

Overweight or obese (2007-2009)[221, 290]

The International Obesity Taskforce (IOTF) has implemented a new approach to measuring overweight and obesity among children because the measurements and classifications identified for adults do not accurately reflect those of children under 18 years of age. The index is calculated for the population aged 2 to 17 years, by gender and age in six-month intervals. See Table C.1 for intervals starting at age 12.

According to the WHO and Health Canada guidelines, the index for body weight classification for the population aged 18 years and over, excluding pregnant females and persons less than 3 feet (0.914 metres) tall or greater than 6 feet 11 inches (2.108 metres) is: less than 18.50 (underweight); 18.50 to 24.99 (normal weight); 25.00 to 29.99 (overweight); 30.00 to 34.99 (obese, class I); 35.00 to 39.99 (obese, class II); 40.00 or greater (obese, class III).

Body mass index (BMI) is calculated by dividing the respondent's body weight (in kilograms) by their height (in metres) squared.

Data Source

Table 3.6: Statistics Canada. *Canadian Health Measures Survey, 2007-2009: Cycle 1* [Share Microdata File]. Ottawa, Ontario: Statistics Canada. All computations on these microdata were prepared by Public Health Agency of Canada and the responsibility for the use and interpretation of these data is entirely that of the author(s).

Table C.1 Body mass index for youth aged 12 to 17 years[290, 291]

	Underweight cut-points BMI less than or equal to:		Overweight cut-points BMI greater than or equal to:		Obesity cut-points BMI greater than or equal to:	
Age (years)	**Boys**	**Girls**	**Boys**	**Girls**	**Boys**	**Girls**
12	15.35	15.62	21.22	21.68	26.02	26.67
12.5	15.58	15.93	21.56	22.14	26.43	27.24
13	15.84	16.26	21.91	22.58	26.84	27.76
13.5	16.12	16.57	22.27	22.98	27.25	28.20
14	16.41	16.88	22.62	23.34	27.63	28.57
14.5	16.69	17.18	22.96	23.66	27.98	28.87
15	16.98	17.45	23.29	23.94	28.30	29.11
15.5	17.26	17.69	23.60	24.17	28.60	29.29
16	17.54	17.91	23.90	24.37	28.88	29.43
16.5	17.80	18.09	24.19	24.54	29.14	29.56
17	18.05	18.25	24.46	24.70	29.41	29.69
17.5	18.28	18.38	24.73	24.85	29.70	29.84

Definitions and Data Sources for Indicators

- P -

Paid employment rate (2008)[200]

Number of persons who, during the reference week, worked for pay or profit, or performed unpaid family work or had a job but were not at work due to their own illness or disability, personal or family responsibilities, labour dispute, vacation, or other reason. Those persons on layoff and persons without work but who had a job to start at a definite date in the future are not considered employed. Value represents the total employed population as a percentage of the total defined population.

Data Source

Table 3.2: Statistics Canada. (2010-12-01). *LFS by education, detailed age, sex and province* [Custom Data File].

Full-time (2008)[200]

Full-time employment consists of persons who usually work 30 hours or more per week at their main or only job. Value represents full-time employees as a percentage of the labour force.

Data Source

Table 3.2: Statistics Canada. (2010-12-01). *LFS by education, detailed age, sex and province* [Custom Data File].

Part-time (2008)[200]

Part-time employment consists of persons who usually work less than 30 hours per week at their main or only job. Value represents part-time employees as a percentage of the labour force.

Data Source

Table 3.2: Statistics Canada. (2010-12-01). *LFS by education, detailed age, sex and province* [Custom Data File].

People reporting food insecurity (2004)[877]

A situation that exists when people lack secure access to sufficient amounts of safe and nutritious food for normal growth and development and an active and healthy life.

Data Source

Table B.3: Health Canada. (2007). *Canadian Community Health Survey Cycle 2.2, Nutrition (2004): Income-Related Household Food Security in Canada.*

Perceived health, very good or excellent (2009)[221]

Population who reported perceiving their own health status as being either excellent or very good. Perceived health refers to the perception of a person's health in general, either by the person himself or herself, or, in the case of a proxy response, by the person responding. Health means not only the absence of disease or injury but also physical, mental and social well-being.

Data Source

Table 3.5: Statistics Canada. *Canadian Community Health Survey, 2009: Annual* [Share Microdata File]. Ottawa, Ontario: Statistics Canada. All computations on these microdata were prepared by Public Health Agency of Canada and the responsibility for the use and interpretation of these data is entirely that of the author(s).
Table B.2: Statistics Canada. (2011-06-28). *CANSIM Table 105-0501 Health indicator profile, annual estimates, by age group and sex, Canada, provinces, territories, health regions (2007 boundaries) and peer groups, occasional* [Data File].

Perceived life stress, quite a bit or extremely (2009)[221]

Population who reported perceiving that most days in their life were quite a bit or extremely stressful. Perceived life stress refers to the amount of stress in the person's life, on most days, as perceived by the person or, in the case of proxy response, by the person responding.

Data Source

Table 3.3: Statistics Canada. *Canadian Community Health Survey, 2009: Annual* [Share Microdata File]. Ottawa, Ontario: Statistics Canada. All computations on these microdata were prepared by Public Health Agency of Canada and the responsibility for the use and interpretation of these data is entirely that of the author(s).

Perceived mental health, very good or excellent (2009)[221]

Population who reported perceiving their own mental health status as being either excellent or very good. Perceived mental health refers to the perception of a person's mental health in general. Perceived mental health provides a general indication of the population suffering from some form of mental disease, mental or emotional problems, or distress, not necessarily reflected in perceived health.

Data Source
Table 3.3: Statistics Canada. *Canadian Community Health Survey, 2009: Annual* [Share Microdata File]. Ottawa, Ontario: Statistics Canada. All computations on these microdata were prepared by Public Health Agency of Canada and the responsibility for the use and interpretation of these data is entirely that of the author(s).
Table B.2: Statistics Canada. (2011-06-28). *CANSIM Table 105-0501 Health indicator profile, annual estimates, by age group and sex, Canada, provinces, territories, health regions (2007 boundaries) and peer groups, occasional* [Data File].

Persons living in low-income (after tax) (2009)[878]

The percentage of Canadian families who are likely to spend 20 per cent or more of their total post-tax income on necessities (food, clothing and footwear, and shelter) when compared to an average family of the same size, in the same broad community size. Low income is based on the consumption patterns for 1992 and adjusted for family size, community sizes and inflation based on the national Consumer Price Index (see Table C.2).

Data Source
Table B.3: Statistics Canada. (2011-05-25). *CANSIM Table 202-0802 Persons in low income, annual* [Data File].

Population (2006, 2010)[880]

Estimated population and population according to the census are both defined as being the number of Canadians whose usual place of residence is in that area, regardless of where they happened to be on Census Day. Also included are any Canadians staying in a dwelling in that area on Census Day and having no usual place of residence elsewhere in Canada, as well as those considered non-permanent residents.

The 2009 population estimates are derived by using final postcensal population estimates for July 1, 2006, updated postcensal population estimates from October 1, 2006 to April 1, 2009 and preliminary postcensal population estimates from July 1, 2009 and adjusted for incompletely enumerated Indian reserves.

Data Source
Table 3.1: Statistics Canada. (2011-04-07). *Age and Sex for the Population of Canada, Provinces, Territories, Census Divisions and Census Subdivisions, 2006 Census – 100% Data* [Data File].
Table B.1: Statistics Canada. (2010). April to June 2010. *Quarterly Demographic Estimates*, 24(2), 1-65.

Post-secondary graduates (2009, 2010)[200]

Persons who have completed a certificate (including a trade certificate), diploma or a minimum of a university bachelor's degree from an educational institution beyond the secondary level. This includes certificates from vocational schools, apprenticeship training, community colleges, Collège d'Enseignement Général et Professionnel (CEGEP), and schools of nursing.

Data Source
Table 3.2: Statistics Canada. (2010-12-01). *LFS by education, detailed age, sex and province* [Custom Data File].
Table B.3: Statistics Canada. (2011-01-21). *CANSIM Table 282-0004 Labour force survey estimates (LFS), by educational attainment, sex and age group, annual* [Data File].

Potential years of life lost[881]

Potential years of life lost are the number of years of life lost when a person dies prematurely from any cause – before age 75. A person dying at age 25, for example, has lost 50 years of life.

Table C.2 Low income cut offs after tax, Canada, 2009[879]

Rural Areas		Urban Areas			
Size of family unit		**Less than 30,000 population**	**30,000 to 99,999 population**	**100,000 to 499,999 population**	**500,000 and over population**
1 person	12,050	13,791	15,384	15,579	18,421
2 persons	14,666	16,785	18,725	18,960	22,420
3 persons	18,263	20,900	23,316	23,610	27,918
4 persons	22,783	26,075	29,089	29,455	34,829
5 persons	25,944	29,692	33,124	33,541	39,660
6 persons	28,773	32,929	36,736	37,198	43,984
7 or more persons	31,602	36,167	40,346	40,854	48,308

Premature mortality due to cancers (2005-2007)[881]

Potential years of life lost for all malignant neoplasms (ICD-10 C00-C97), such as colorectal, lung, female breast and prostate cancer, is the number of years of life lost when a person dies prematurely from any cancer – before age 75.

Data Source
Table B.2: Statistics Canada. (2011-02-25). *CANSIM Table 102-4309 Mortality and potential years of life lost, by selected causes of death and sex, three-year average, Canada, provinces, territories, health regions and peer groups, occasional* [Data File].

Premature mortality due to circulatory diseases (2005-2007)[881]

Potential years of life lost for all circulatory disease deaths (ICD-10 I00-I99), such as ischaemic heart disease, and cerebrovascular diseases, is the number of years of life lost when a person dies prematurely from any circulatory disease – before age 75.

Data Source
Table B.2: Statistics Canada. (2011-02-25). *CANSIM Table 102-4309 Mortality and potential years of life lost, by selected causes of death and sex, three-year average, Canada, provinces, territories, health regions and peer groups, occasional* [Data File].

Premature mortality due to HIV (2005-2007)[881]

Potential years of life lost for human immunodeficiency virus (HIV) infection deaths (ICD-10 B20-B24) is the number of years of life lost when a person dies prematurely from AIDS/HIV – before age 75.

Data Source
Table B.2: Statistics Canada. (2011-02-25). *CANSIM Table 102-4309 Mortality and potential years of life lost, by selected causes of death and sex, three-year average, Canada, provinces, territories, health regions and peer groups, occasional* [Data File].

Premature mortality due to respiratory diseases (2005-2007)[881]

Potential years of life lost for all respiratory disease deaths (ICD-10 J00-J99), such as pneumonia and influenza, bronchitis, emphysema and asthma, is the number of years of life lost when a person dies prematurely from any respiratory disease – before age 75.

Data Source
Table B.2: Statistics Canada. (2011-02-25). *CANSIM Table 102-4309 Mortality and potential years of life lost, by selected causes of death and sex, three-year average, Canada, provinces, territories, health regions and peer groups, occasional* [Data File].

Premature mortality due to suicide and self-inflicted injuries (2005-2007)[881]

Potential years of life lost for suicides (ICD-10 X60-X84, Y87.0) is the number of years of life lost when a person dies prematurely from suicide – before age 75.

Data Source
Table B.2: Statistics Canada. (2011-02-25). *CANSIM Table 102-4309 Mortality and potential years of life lost, by selected causes of death and sex, three-year average, Canada, provinces, territories, health regions and peer groups, occasional* [Data File].

Premature mortality due to unintentional injuries (2005-2007)[881]

Potential years of life lost for unintentional injuries (ICD-10 V01-X59, Y85-Y86) is the number of years of life lost when a person dies prematurely from unintentional injuries – before age 75.

Data Source
Table B.2: Statistics Canada. (2011-02-25). *CANSIM Table 102-4309 Mortality and potential years of life lost, by selected causes of death and sex, three-year average, Canada, provinces, territories, health regions and peer groups, occasional* [Data File].

- R -

Regular family physician (2009)[221]

Population who reported that they have a regular medical doctor. In 2003 and 2005, the indicator in French only included "médecin de famille". Starting in 2007, this concept was widened to "médecin régulier", which includes "médecin de famille".

Data Source
Table B.3: Statistics Canada. (2011-06-28). *CANSIM Table 105-0501 Health indicator profile, annual estimates, by age group and sex, Canada, provinces, territories, health regions (2007 boundaries) and peer groups, occasional* [Data File].

Respiratory diseases (2007)[882]

Deaths associated with respiratory diseases (ICD J00-J99) including by not limited to respiratory infections, influenza and pneumonia.

Data Source

Table B.2: Statistics Canada. (2010-11-08). *CANSIM Table 102-0530 Deaths, by cause, Chapter X: Diseases of the respiratory system (J00 to J99), age group and sex, Canada, annual* [Data File]; and Statistics Canada. *CANSIM Table 051-0001 Estimates of population, by age group and sex for July 1, Canada, provinces and territories, annual.* All computations on these microdata were prepared by Public Health Agency of Canada and the responsibility for the use and interpretation of these data is entirely that of the author(s).

- S -

Schizophrenia (2005)[210, 883]

Respondents who reported having been diagnosed with schizophrenia by a health professional. This is believed to underestimate the true prevalence since some people do not report that they have schizophrenia and the survey did not reach individuals who were homeless, in hospital or supervised residential settings.

Data Source

Table B.2: Statistics Canada. *Canadian Community Health Survey, 2005: Cycle 3.1* [Share Microdata File]. Ottawa, Ontario: Statistics Canada. All computations on these microdata were prepared by Public Health Agency of Canada and the responsibility for the use and interpretation of these data is entirely that of the author(s).

Sense of community belonging, somewhat or very strong (2009)[221]

Population who reported their sense of belonging to their local community as being very strong or somewhat strong.

Data Source

Table 3.3: Statistics Canada. *Canadian Community Health Survey, 2009: Annual* [Share Microdata File]. Ottawa, Ontario: Statistics Canada. All computations on these microdata were prepared by Public Health Agency of Canada and the responsibility for the use and interpretation of these data is entirely that of the author(s).
Table B.3: Statistics Canada. (2011-06-28). *CANSIM Table 105-0501 Health indicator profile, annual estimates, by age group and sex, Canada, provinces, territories, health regions (2007 boundaries) and peer groups, occasional* [Data File].

Some post-secondary education (2009, 2010)[200]

Persons who worked toward, but did not complete, a degree, certificate (including a trade certificate) or diploma from an educational institution, including a university, beyond the secondary level. This includes vocational schools, apprenticeship training, community colleges, Collège d'Enseignement Général et Professionnel (CEGEP), and schools of nursing.

Data Source

Table 3.2: Statistics Canada. (2010-12-01). *LFS by education, detailed age, sex and province* [Custom Data File].
Table B.3: Statistics Canada. (2011-01-21). *CANSIM Table 282-0004 Labour force survey estimates (LFS), by educational attainment, sex and age group, annual* [Data File].

Suicidal thought in the past 12 months (2002)[884]

Population who reported having seriously thought about committing suicide or taking their own life in the past 12 months.

Data Source

Table 3.4: Statistics Canada. *Canadian Community Health Survey, 2002: Cycle 1.2* [Share Microdata File]. Ottawa, Ontario: Statistics Canada. All computations on these microdata were prepared by Public Health Agency of Canada and the responsibility for the use and interpretation of these data is entirely that of the author(s).

- T -

Teen pregnancy rate (2008)[108]

Total number of pregnancies (including live births) for women aged 15 to 19 years per 1,000 female population.

Data Source

Table 3.7: Statistics Canada. (2011-04-26). *CANSIM Table 102-4505 Crude birth rate, age-specific and total fertility rates (live births), Canada, provinces and territories, annual* [Data File].
Table B.3: Statistics Canada. (2011-04-26). *CANSIM Table 102-4505 Crude birth rate, age-specific and total fertility rates (live births), Canada, provinces and territories, annual* [Data File].

Definitions and Data Sources for Indicators

- U -

Unemployment rate (2010)[200]

The unemployment rate is the number of unemployed persons expressed as a percentage of the labour force.

Data Source
Table B.3: Statistics Canada. (2011-01-21). *CANSIM Table 282-0004 Labour force survey estimates (LFS), by educational attainment, sex and age group, annual* [Data File].

Urban population (2006)[885]

An urban area has a minimum population concentration of 1,000 persons and a population density of at least 400 persons per square kilometre, based on the current census population count.

Data Source
Table 3.1: Statistics Canada. (2010-12-01). *Age groups, Rural/Urban area, Immigrant status, Aboriginal Identity and Sex for Persons 12 to 29 years of age in Private Households of Canada, 2006 Census – 20% sample data* [Custom Data File].
Table B.1: Statistics Canada. (2008-11-05). *Population and dwelling counts, for urban areas, 2006 and 2001 censuses – 100% data* [Data File].

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Violent crime incidents (2009)[886]

Offences that deal with the application or threat of application, of force to a person including homicide, attempted murder, various forms of sexual and non-sexual assault, robbery and abduction, as well as traffic incidents that result in death or bodily harm.

Data Source
Table B.3: Dauvergne, M. & Turner, J. (2010). Police-reported crime statistics in Canada, 2009. *Juristat*, 30(2), 1-37.

References

1. Government of Canada: *Public Health Agency of Canada Act*, S.C., c. 5, 2006.
2. Public Health Agency of Canada. (2008-04-04). *Who We Are*. Retrieved on December 3, 2010, from http://www.phac-aspc.gc.ca/about_apropos/who-eng.php
3. Public Health Agency of Canada. (2010-11-17). *The Role of the Chief Public Health Officer*. Retrieved on December 3, 2010, from http://www.phac-aspc.gc.ca/cpho-acsp/cpho-acsp-role-eng.php
4. Public Health Agency of Canada. (2004-09-01). *The Federal Strategy*. Retrieved on October 14, 2010, from http://www.phac-aspc.gc.ca/about_apropos/federal_strategy-eng.php
5. National Advisory Committee on SARS and Public Health. (2003). *Learning from SARS: Renewal of Public Health in Canada*. (Ottawa: Health Canada).
6. Mowat, D. L. & Butler-Jones, D. (2007). Public Health in Canada: A Difficult History. *Healthcare papers*, 7(3), 31-36.
7. Last, J. M. (2001). *A Dictionary of Epidemiology*. (New York: Oxford University Press).
8. Last, J. M. (2007). *A Dictionary of Public Health*. (New York: Oxford University Press).
9. Canadian Institute for Health Information. (2004). *Improving the Health of Canadians*. (Ottawa: Canadian Institute for Health Information).
10. Canadian Institute for Health Information. (2005). *Improving the Health of Young Canadians*. (Ottawa: Canadian Institute for Health Information).
11. Public Health Agency of Canada. (2010-05-18). *What Determines Health?* Retrieved on December 24, 2010, from http://www.phac-aspc.gc.ca/ph-sp/determinants/index-eng.php
12. Canadian Institute for Health Information. (2005). *Developing a Healthy Communities Index: A Collection of Papers*. (Ottawa: Canadian Institute for Health Information).
13. Hou, F. & Myles, J. (2004). *Neighbourhood Inequality, Relative Deprivation and Self-perceived Health Status*. (Ottawa: Statistics Canada).
14. Moloughney, B. (2004). *Housing and Population Health – The State of Current Research Knowledge*. (Prepared for Canadian Population Health Initiative, part of the Canadian Institute for Health Information and Canada Mortgage and Housing Corporation). (Ottawa: Canadian Institute for Health Information).
15. Indian and Northern Affairs Canada. (2002). *An Evolving Terminology Relating to Aboriginal Peoples in Canada*.
16. *Constitution Act, 1982*.
17. Statistics Canada. (2010-03-02). *Immigration*. Retrieved on February 5, 2010, from http://www.statcan.ca/english/concepts/definitions/immigration.htm
18. Gender Equity Resource Center. (n.d.). *LGBT Resources – Definition of Terms*. Retrieved on April 11, 2011, from http://geneq.berkeley.edu/lgbt_resources_definiton_of_terms
19. Savin-Williams, R. C. (2001). A critique of research on sexual-minority youth. *Journal of Adolescence*, 24(1), 5-13.
20. Grace, A. P. (2011). *Institute for Sexual Minority Studies and Services: 2009-2010 Annual Report*. (Institute for Sexual Minority Studies and Services).
21. Grace, A. P. (2009). Resilient sexual-minority youth as fugitive lifelong learners: Engaging in a strategic, asset-creating, community-based learning process to counter exclusion and trauma in formal schooling. In J.Field (Ed.), *Proceedings of the Lifelong Learning Revisited: What's Next? Conference of the Scottish Centre for Research in Lifelong Learning*, University of Stirling, Stirling, UK.
22. Public Health Agency of Canada. (2008). *Canadian Guidelines for Sexual Health Education*. (Ottawa: Public Health Agency of Canada).
23. Public Health Agency of Canada. (2006). *Street Youth in Canada: Findings from Enhanced Surveillance of Canadian Street Youth, 1999-2003*. (Ottawa: Public Health Agency of Canada).
24. Roy, É., Haley, N., Leclerc, P., Lemire, N. et al. (2000). Prevalence of HIV infection and risk behaviours among Montreal street youth. *International Journal of STD and AIDS*, 11(4), 241-247.

25. Noell, J., Rohde, P., Ochs, L., Yovanoff, P. et al. (2001). Incidence and prevalence of chlamydia, herpes, and viral hepatitis in a homeless adolescent population. *Sexually Transmitted Diseases*, 28(1), 4-10.

26. Public Health Agency of Canada. (2011-06-16). *About the Agency*. Retrieved on October 14, 2010, from http://www.phac-aspc.gc.ca/about_apropos/index-eng.php

27. Public Health Agency of Canada. (2007). *The Public Health Agency of Canada – Strategic Plan: 2007-2012, Information, Knowledge, Action*. (Ottawa: Public Health Agency of Canada).

28. Clement, T. (2008). *Public Health Agency of Canada, 2008-2009. Report on Plans and Priorities.* (Ottawa).

29. The Student Commission Facilitation Team. (2011). *Highlights from the Unite and Ignite Youth Engagement Conference.* (Ottawa).

30. Butler-Jones, D. (2009). *The Chief Public Health Officer's Report on the State of Public Health in Canada, 2009: Growing Up Well – Priorities for a Healthy Future.* (Ottawa: Public Health Agency of Canada).

31. Hertzman, C. & Power, C. (2003). Health and Human Development: Understandings from Life-Course Research. *Developmental Neuropsychology,* 24(2&3), 719-744.

32. Gaudet, S. (2007). *Emerging Adulthood: A New Stage in the Life Course. Implications for Policy Development.* (Ottawa: Policy Research Initiative).

33. Halfon, N. & Hochstein, M. (2002). Life Course Health Development: An Integrated Framework for Developing Health, Policy, and Research. *The Milbank Quarterly,* 80(3), 433-479.

34. Lynch, J. & Smith, G. D. (2005). A Life Course Approach to Chronic Disease Epidemiology. *Annual Review of Public Health*, 26, 1-35.

35. Forrest, C. B. & Riley, A. W. (2004). Childhood Origins Of Adult Health: A Basis For Life-Course Health Policy. *Health Affairs,* 23(5), 155-164.

36. Butler-Jones, D. (2010). *The Chief Public Health Officer's Report on the State of Public Health in Canada, 2010: Growing Older – Adding Life to Years.* (Ottawa: Public Health Agency of Canada).

37. Clark, W. (2007). Delayed transitions of young adults. *Canadian Social Trends,* Winter 2007(84), 13-21.

38. Beaujot, R. (2007). *Emerging Youth Transition Patterns in Canada. Opportunities and Risks.* (Ottawa: Policy Research Initiative).

39. United Way of Calgary. (2011). *Towards Resiliency for Vulnerable Youth.* (Calgary: United Way of Calgary).

40. Franke, S. (2010). *Current Realities and Emerging Issues Facing Youth in Canada: An Analytical Framework for Public Policy Research, Development and Evaluation.* (Ottawa: Policy Research Initiative).

41. Public Health Agency of Canada. (2003-06-16). *What Makes Canadians Healthy or Unhealthy?* Retrieved on October 26, 2010, from http://www.phac-aspc.gc.ca/ph-sp/determinants/determinants-eng.php

42. Dahlgren, G. & Whitehead, M. (1991). *Policies and strategies to promote social equity in health.*

43. Centre for Applied Research, Faculty of Social Work, & University of Toronto. (1999). *Housing and Population Health: A Review of the Literature.* (Prepared for Canada Mortgage and Housing Corporation).

44. Mikkonen, J. & Raphael, D. (2010). *Social Determinants of Health: The Canadian Facts.* (Toronto: York University School of Health Policy and Management).

45. Public Health Agency of Canada. (2008). *Healthy Settings for Young People in Canada.* (Ottawa: Public Health Agency of Canada).

46. Commission on Social Determinants of Health. (2008). *Closing the gap in a generation: Health equity through action on the social determinants of health. Final Report of the Commission on Social Determinants of Health.* (Geneva: World Health Organization).

47. Boyce, W. (2004). *Young People in Canada: their health and well-being.* (Ottawa: Health Canada).

48. Rose-Krasnor, L., Busseri, M. A., Willoughby, T., & Chalmers, H. (2006). Breadth and Intensity of Youth Activity Involvement as Contexts for Positive Development. *Journal of Youth and Adolescence,* 35(3), 385-499.

49. Butler-Jones, D. (2008). *The Chief Public Health Officer's Report on the State of Public Health in Canada, 2008: Addressing Health Inequalities.* (Ottawa: Public Health Agency of Canada).

50. Public Health Agency of Canada. (2005). *Make Every Mother and Child Count: Report on Maternal and Child Health in Canada.* (Ottawa: Public Health Agency of Canada).
51. Public Health Agency of Canada. (2001-12-08). *The Socioeconomic Gradient in Population Health: Explaining Health Inequalities. Findings from the Book Developmental Health and the Wealth of Nations.* Retrieved on February 9, 2011, from http://www.phac-aspc.gc.ca/ph-sp/resources-ressources/gradient-eng.php
52. World Health Organization. (2003). *Social Determinants of Health: The Solid Facts. 2nd Edition.* (Denmark: World Health Organization).
53. Centres of Excellence for Youth Engagement. (2003). *Youth Engagement and Health Outcomes: Is there a link?*
54. TkMC. (2006). *Socioeconomic Disadvantage: Health and Education Outcomes for School-Aged Children and Youth.* (Prepared for Alberta Coalition for Healthy School Communities).
55. Health Disparities Task Group of the Federal/Provincial/Territorial Advisory Committee on Population Health and Health Security. (2004). *Reducing Health Disparities – Roles of the Health Sector: Recommended Policy Directions and Activities.* (Government of Canada).
56. Marmot, M., Atkinson, T., Bell, J., Black, C. et al. (2010). *Fair Society, Healthy Lives: A Strategic Review of Health Inequalities in England Post-2010.* (The Marmot Review).
57. Public Health Agency of Canada. (2004-03-22). *The Social Determinants of Health: Social Inclusion as a Determinant of Health.* Retrieved on July 18, 2011, from http://www.phac-aspc.gc.ca/ph-sp/oi-ar/03_inclusion-eng.php
58. Chandler, M. J. & Lalonde, C. E. (2008). Cultural Continuity as a Protective Factor against Suicide in First Nations Youth. *Horizons,* 10(1), 68-72.
59. Wayland, S. V. (2010). *Integration of Immigrants Through Local Public Services.* (Brampton: Region of Peel).
60. Gambone, M. A., Klem, A. M., & Connell, J. P. (2002). *Finding Out What Matters for Youth: Testing Key Links in a Community Action Framework for Youth Development.* (Philadelphia: Youth Development Strategies, Inc. and Institute for Research and Reform in Education).
61. Rutty, C. & Sullivan, S. C. (2010). *This is Public Health: A Canadian History.* (Ottawa: Canadian Public Health Association).
62. Canadian Public Health Association. (n.d.). *12 Great Achievements. Safer and Healthier Foods – Milestones.* Retrieved on February 9, 2011, from http://cpha100.ca/12-great-achievements/safer-and-healthier-foods-milestones
63. Canadian Public Health Association. (n.d.). *12 Great Achievements. Healthier environments – Milestones.* Retrieved on February 9, 2011, from http://cpha100.ca/12-great-achievements/healthier-environments-milestones
64. Canadian Public Health Association. (n.d.). *12 Great Achievements. Achieving safe workplaces in Canada.* Retrieved on February 23, 2011, from http://cpha100.ca/12-great-achievements/achieving-safer-workplaces-canada
65. Human Resources and Social Development Canada. (2006). *Minimum Age for Employment in Canada.*
66. Canadian Museum of Civilization Corporation. (2010-07-30). *Canadian Labour History, 1850-1999: Workers Unite. Working Children.* Retrieved on November 29, 2010, from http://www.civilization.ca/cmc/exhibitions/hist/labour/labv16e.shtml
67. Oreopoulos, P. (2005). *Canadian Compulsory School Laws and their Impact on Educational Attainment and Future Earnings.* (Ottawa: Statistics Canada).
68. Health Canada. (2007-02-05). *Food and Nutrition. History of the Food Guide.* Retrieved on November 19, 2010, from http://www.hc-sc.gc.ca/fn-an/food-guide-aliment/context/hist-eng.php
69. Crompton, S. & Vickers, M. (2000). One hundred years of labour force. *Canadian Social Trends,* 57(Summer), 2-14.
70. Wyn, J. & Dwyer, P. (2000). New patterns of youth transition in education. *International Social Science Journal,* 52(164), 147-159.
71. Human Resources and Skills Development Canada. (2009-05-22). *About the Canada Student Loans Program (CSLP).* Retrieved on November 19, 2010, from http://www.hrsdc.gc.ca/eng/learning/canada_student_loan/about/index.shtml
72. Youth Canada. (2011-01-26). *Youth Employment Strategy (YES).* Retrieved on June 28, 2011, from http://www.youth.gc.ca/eng/common/yes.shtml
73. LaRochelle-Côté, S. & Gilmore, J. (2009). Canada's employment downturn. *Perspectives,* 10(12), 5-12.

References

74. Youth Canada. (2009-04-29). *Service Canada Centres for Youth (SCCY)*. Retrieved on November 19, 2010, from http://www.youth.gc.ca/eng/topics/jobs/sccy.shtml

75. Government of Canada. (2009). *Convention on the Rights of the Child. Third and Fourth Reports of Canada, covering the period January 1998 – December 2007*. (Ottawa).

76. Human Resources and Skills Development Canada. (2011-03-31). *Minimum Wage Database Introduction*. Retrieved on June 30, 2011, from http://srv116.services.gc.ca/dimt-wid/sm-mw/intro.aspx?lang=eng

77. Canadian Centre for Occupational Health and Safety. (2011-06-16). *Young Workers Zone. What Laws Apply To You?* Retrieved on June 30, 2011, from http://www.ccohs.ca/youngworkers/resources/whatLaws.html

78. Health Canada. (2010-06-10). *Environmental and Workplace Health. Workplace Hazardous Materials Information System – Official National Site*. Retrieved on February 9, 2011, from http://www.hc-sc.gc.ca/ewh-semt/occup-travail/whmis-simdut/index-eng.php

79. Canadian Centre for Occupational Health and Safety. (2011-06-16). *About CCOHS*. Retrieved on June 30, 2011, from http://www.ccohs.ca/ccohs.html

80. Government of Canada: *Canada Labour Code*, R.S.C., c. L-2, 1985.

81. Government of Canada: *Canada Labour Standards Regulations*, C.R.C., c.986, 1978.

82. Government of Canada: *Canada Occupational Health and Safety Regulations*, SOR/86-304, 2011-06-15.

83. Canadian Centre for Occupational Health and Safety. (2011-03-04). *Young Workers Zone: The Truth Hurts*. Retrieved on June 27, 2011, from http://www.ccohs.ca/youngworkers/resources/truthHurts.html

84. Canadian Broadcasting Corporation. (2005-07-20). *Auto style over safety?* Retrieved on June 28, 2011, from http://archives.cbc.ca/version_print.asp?page=1&IDLan=1&IDClip=12090&IDDossier=0&IDCat=351&IDCatPa=261

85. World Health Organization. (2004). *World report on road traffic injury prevention*. (Geneva: World Health Organization).

86. Transport Canada. (2007). *Seat belt sense. What you need to know about seat belts, air bags and child restraints*. (Ottawa: Transport Canada (Road Safety and Motor Vehicle Regulation)).

87. Youth Canada. (2010-12-20). *Getting Your Driver's License*. Retrieved on February 9, 2011, from http://www.youth.gc.ca/eng/life_events/drivers_license.shtml

88. Insurance Corporation of British Columbia. (n.d.). *Getting Licensed*. Retrieved on April 14, 2011, from http://www.icbc.com/driver-licensing/getting-licensed/graduated-licensin

89. Government of Alberta. (2010-12-13). *Graduated Driver Licensing*. Retrieved on April 14, 2011, from http://www.saferoads.com/drivers/drivers_newdrivers.html

90. Government of Nova Scotia. (n.d.). *Registry of Motor Vehicles – Graduated Drivers License System*. Retrieved on April 14, 2011, from http://www.gov.ns.ca/snsmr/rmv/licence/gradlic.asp

91. Ontario Ministry of Transportation. (2010-12-29). *Graduated Licensing*. Retrieved on July 6, 2011, from http://www.mto.gov.on.ca/english/dandv/driver/gradu/

92. Government of Ontario. (2010-06-10). *Beginner Driver Education in Ontario – What's New?* Retrieved on April 14, 2011, from http://www.mto.gov.on.ca/english/dandv/driver/gradu/new.shtml

93. Government of Ontario. (2010-06-10). *Beginner Driver Education (BDE) Curriculum Standards*. Retrieved on April 14, 2011, from http://www.mto.gov.on.ca/english/dandv/driver/curriculum/index.shtml

94. Insurance Corporation of British Columbia. (n.d.). *Driver education & you. Taking an ICBC-approved driver education course*. Retrieved on April 14, 2011, from http://www.dtcbc.com/info/driver/app_crse.htm

95. Insurance Corporation of British Columbia. (n.d.). *Driver education & you. Why take driver training?* Retrieved on April 14, 2011, from http://www.dtcbc.com/info/driver/index.htm

96. Canadian Public Health Association. (n.d.). *12 Great Achievements. Motor-vehicle safety – Milestones*. Retrieved on February 9, 2011, from http://cpha100.ca/12-great-achievements/motor-vehicle-safety-milestones

97. arrive alive DRIVE SOBER. (n.d.). *arrive alive DRIVE SOBER. Our Programs*. Retrieved on February 9, 2011, from http://www.occid.org/arrivealive/arivealive.html#

98. MADD Canada. (n.d.). *MADD Canada FAQs*. Retrieved on February 9, 2011, from http://madd.ca/english/about/faq.html

99. Students Against Destructive Decisions. (n.d.). *History of SADD. SADD Profile*. Retrieved on February 9, 2011, from http://www.sadd.org/history.htm

100. Transport Canada. *National Collision Database (NCDB), 2010*. Road Safety Programs. All computations on these data were prepared by Public Health Agency of Canada and the responsibility for the use and interpretation of these data is entirely that of the author(s).

101. City of Edmonton. (2006). *Edmonton Social Plan – Youth and Young Adults*. (Edmonton: City of Edmonton, Community Services).

102. Canadian Automobile Association. (n.d.). *Distracted Driving Laws in Canada*. Retrieved on December 3, 2010, from http://www.caa.ca/driventodistraction/what/faq.html

103. Government of Canada. (2004). *The Federal Initiative to Address HIV/AIDS in Canada: Strengthening Federal Action in the Canadian Response to HIV/AIDS*. (Ottawa: Government of Canada).

104. Public Health Agency of Canada. (2007-09-25). *Federal Initiative to Address HIV/AIDS in Canada*. Retrieved on February 24, 2011, from http://www.phac-aspc.gc.ca/aids-sida/fi-if/index-eng.php

105. Government of Canada. (2010-12-01). *The Canadian HIV Vaccine Initiative*. Retrieved on February 24, 2011, from http://www.chvi-icvv.gc.ca/index-eng.html

106. Public Health Agency of Canada. (2006-09-19). *Canadian Strategy on HIV/AIDS: Moving Forward Together*. Retrieved on July 5, 2011, from http://www.phac-aspc.gc.ca/aids-sida/fi-if/monitoring/can_strat-eng.php

107. Statistics Canada. (2010-10-22). *CANSIM Table 106-9002 Pregnancy outcomes, by age group, Canada, provinces and territories, annual* [Data File]. Retrieved on February 21, 2011, from http://www5.statcan.gc.ca/cansim/pick-choisir?lang=eng&id=1069002&pattern=1069002&searchTypeByValue=1

108. Statistics Canada. (2011-04-26). *CANSIM Table 102-4505 Crude birth rate, age-specific and total fertility rates (live births), Canada, provinces and territories, annual* [Data File]. Retrieved on June 30, 2011, from http://cansim2.statcan.gc.ca/cgi-win/cnsmcgi.pgm?Lang=E&ArrayId=1024505&Array_Pick=1&RootDir=CII/&ResultTemplate=CII/CII___

109. Canadian Public Health Association. (n.d.). *12 Great Achievements. History of Family Planning in Canada*. Retrieved on February 9, 2011, from http://cpha100.ca/12-great-achievements/history-family-planning-canada

110. Boyce, W., Doherty-Poirier, M., MacKinnon, D., Fortin, C. et al. (2006). Sexual health of Canadian youth: Findings from the Canadian Youth, Sexual Health and HIV/AIDS Study. *The Canadian Journal of Human Sexuality*, 15(2), 59-68.

111. Dryburgh, H. (2000). Teenage Pregnancy. *Health Reports*, 12(1), 9-19.

112. Canadian Public Health Association. (n.d.). *12 Great Achievements. Milestones: Family Planning*. Retrieved on July 18, 2011, from http://cpha100.ca/12-great-achievements/milestones-family-planning

113. Canadian Federation for Sexual Health. (2009-03). *History of CFSH*. Retrieved on February 23, 2011, from http://www.cfsh.ca/About_CFSH/History.aspx

114. Andres, L. (2002). *Policy Research Issues for Canadian Youth: Transition Experiences of Young Women*. (Hull: Human Resources Development Canada).

115. Statistics Canada. (2008-10-22). *Historical Statistics of Canada, Section B: Vital Statistics and Health. Vital Statistics (Series B1-81). Table B1-14 Live births, crude birth rate, age-specific fertility rates, gross reproduction rate and percentage of births in hospital, Canada, 1921 to 1974* [Data File]. Retrieved on June 30, 2011, from http://www.statcan.gc.ca/pub/11-516-x/sectionb/4147437-eng.htm

116. Statistics Canada. (2010-10-22). *Age-specific fertility rate: number of live births and age-specific fertility rate by age of mother and number of children previously born, 1961 to 1997* [Data File]. Retrieved on February 22, 2011, from http://jeff-lab.queensu.ca/library/free/health-statistics/00060107.ivt

References

117. Council of Ministers of Education (Canada). (n.d.). *Postsecondary Education*. Retrieved on April 14, 2011, from http://www.cmec.ca/Programs/post/Pages/default.aspx

118. Canadian Education Statistics Council & Statistics Canada. (2009). *Postsecondary Enrolment and Graduation*. (Ottawa: Statistics Canada).

119. The Council of Ministers of Education. (n.d.). *Education in Canada: An Overview*. Retrieved on April 14, 2011, from http://www.cmec.ca/Pages/canadawide.aspx

120. Human Resources and Skills Development Canada. (2009-08-27). *Canada Student Grants Program*. Retrieved on November 19, 2010, from http://www.hrsdc.gc.ca/eng/learning/canada_student_loan/cgsp.shtml

121. CanLearn. (2009-11-18). *Glossary. Canada Millennium Scholarship Foundation*. Retrieved on April 28, 2011, from http://www.canlearn.ca/eng/main/help/glossary/canada_millennium_scholarship_foundation.shtml

122. CanLearn. (2011-03-19). *What Are Grants, Bursaries and Scholarships*. Retrieved on June 28, 2011, from http://www.canlearn.ca/eng/postsec/money/grants/gindex.shtml

123. Kroes, G. (2008). *Aboriginal Youth in Canada: Emerging Issues, Research Priorities, and Policy Implications. Report of the Roundtable on Aboriginal Youth, Workshop Report*. (Ottawa: Policy Research Initiative).

124. The National Aboriginal Achievement Foundation. (2011). *Annual Report 2009-10*.

125. Indian and Northern Affairs Canada. (2011-03-24). *First Nations and Inuit Summer Work Experience Program*. Retrieved on February 24, 2011, from http://www.ainc-inac.gc.ca/edu/ep/ys/iye/iye-eng.asp

126. The Heritage Canada Foundation. (n.d.). *Youth Canada Works 2011*. Retrieved on February 24, 2011, from http://www.heritagecanada.org/eng/services/works.html

127. Mulholland, E. (2008). *What Sport Can Do: The True Sport Report*. (Ottawa: Canadian Centre for Ethics in Sport).

128. Health Canada. (2010-07-16). *Canada's Physical Activity Guide for Youth*. Retrieved on November 19, 2010, from http://publications.gc.ca/site/eng/109429/publication.html

129. Public Health Agency of Canada. (2011-01-20). *Physical Activity. Canada's Physical Activity News*. Retrieved on February 22, 2011, from http://www.phac-aspc.gc.ca/hp-ps/hl-mvs/pa-ap/10paap-eng.php

130. Canadian Society for Exercise Physiology. (2011). *Canadian Physical Activity Guidelines*. Retrieved on April 14, 2011, from http://www.csep.ca/CMFiles/Guidelines/CSEP-InfoSheetsComplete-ENG.pdf

131. Canadian Society for Exercise Physiology. (2011). *2011 Canadian Physical Activity Guidelines (January 24, 2011)*.

132. Canadian Society for Exercise Physiology. (n.d.). *Canadian Sedentary Behaviour Guidelines*. Retrieved on May 30, 2011, from http://www.csep.ca/CMFiles/Guidelines/CSEP-InfoSheets-ENG-Teen%20FINAL.pdf

133. Canada Revenue Agency. (2011-01-05). *Eligibility*. Retrieved on July 14, 2011, from http://www.cra-arc.gc.ca/tx/ndvdls/tpcs/ncm-tx/rtrn/cmpltng/ddctns/lns360-390/365/lgblty-eng.html

134. Leitch, K., Bassett, D., & Weil, M. (2006). *Report of the Expert Panel for the Children's Fitness Tax Credit*. (Ottawa: Department of Finance Canada).

135. ParticipACTION. (n.d.). *About ParticipACTION*. Retrieved on February 9, 2011, from http://www.participaction.com/en-us/About-Participaction/About-ParticipACTION.aspx

136. Canadian Heritage. (2010-03-09). *Sport Canada*. Retrieved on April 19, 2011, from http://www.pch.gc.ca/eng/1268160670172/1268160761399

137. Boys & Girls Clubs of Canada. (n.d.). *Programs: National*. Retrieved on February 9, 2011, from http://www.bgccan.com/en/ClubsPrograms/Programs-National/Pages/default.aspx

138. YMCA Canada. (n.d.). *YMCA History Booklet*. (YMCA Canada).

139. Health Canada. (2010-03-04). *Food and Nutrition. Eating Well with Canada's Food Guide – First Nations, Inuit and Métis*. Retrieved on April 15, 2011, from http://www.hc-sc.gc.ca/fn-an/food-guide-aliment/fnim-pnim/index-eng.php

References

140. Ontario Public Health Association. (n.d.). *Injury Prevention Initiative (IPI)*. Retrieved on October 27, 2010, from http://www.opha.on.ca/programs/ipi.shtml

141. Government of Ontario. (2007). *Ontario's Injury Prevention Strategy: Working Together for a Safer, Healthier Ontario*. (Toronto: Government of Ontario, Ministry of Health Promotion).

142. Public Health Agency of Canada. (2010-09-10). *Overview of the Pan-Canadian Healthy Living Strategy*. Retrieved on February 22, 2011, from http://www.phac-aspc.gc.ca/hp-ps/hl-mvs/ipchls-spimmvs-eng.php

143. Public Health Agency of Canada. (2011-03-16). *Fact Sheet: Investing in child and youth injury prevention in sports and recreation*. Retrieved on May 20, 2011, from http://www.phac-aspc.gc.ca/media/nr-rp/2011/2011_0316a-eng.php

144. LeBlanc, J. C., Beattie, T. L., & Culligan, C. (2002). Effect of legislation on the use of bicycle helmets. *Canadian Medical Association Journal*, 166(5), 592-595.

145. Keezer, M. R., Rughani, A., Carroll, M., & Haas, B. (2007). Head first: Bicycle-helmet use and our children's safety. *Canadian Family Physician*, 53(7), 1131-1132.

146. Statistics Canada. (2011-04-29). *Bicycle Helmet Use, 2009*. Retrieved on June 28, 2011, from http://www.statcan.gc.ca/pub/82-625-x/2010002/article/11274-eng.htm

147. Safe Kids Canada. (2007). *Child and Youth Unintentional Injury: 1994-2003, 10 Years in Review*. (Safe Kids Canada).

148. Canadian Red Cross. (n.d.). *History of Red Cross Swimming & Water Safety*. Retrieved on February 23, 2011, from http://www.redcross.ca/article.asp?id=32260&tid=001

149. SMARTRISK. (n.d.). *About SMARTRISK. Our history and philosophy*. Retrieved on February 23, 2011, from http://www.smartrisk.ca/index.php/aboutSR/C9

150. Think First Canada. (n.d.). *About Us*. Retrieved on February 23, 2011, from http://www.thinkfirst.ca/aboutus/index.aspx

151. Safe Kids Canada. (2010-05-28). *About Safe Kids Canada*. Retrieved on February 23, 2011, from http://www.safekidscanada.ca/Professionals/About-Us/Index.aspx

152. Health Canada. (2009-09-29). *Health Concerns. About Tobacco Control*. Retrieved on October 22, 2010, from http://www.hc-sc.gc.ca/hc-ps/tobac-tabac/about-apropos/index-eng.php

153. Health Canada. (2009-07-10). *Health Concerns. Federal Tobacco Control Strategy*. Retrieved on October 22, 2010, from http://www.hc-sc.gc.ca/hc-ps/tobac-tabac/about-apropos/role/federal/strateg-eng.php

154. Government of Canada: *Tobacco Act*, (Part IV: Promotion, 1997, c.13), 2010, c. 18-42.

155. Tiedemann, M. and Wall, T.: *Legislative Summary. Bill C-32: An Act to amend the Tobacco Act*, LS-648E, 2010-02-04.

156. Health Canada. (2008). *Smoking Cessation in the Workplace. A guide to helping your employees quit smoking*. (Ottawa: Health Canada).

157. The Lung Association. (2008). *Making QUIT happen. Canada's Challenges to Smoking Cessation*. (The Lung Association).

158. Health Canada. (2005-08-01). *About Quit 4 Life*. Retrieved on July 6, 2011, from http://www.quit4life.com/info_e.asp

159. Health Canada. (2008). *2000-2002 Report on Tobacco Control – Update*.

160. Public Health Agency of Canada. (2010). *Report on Sexually Transmitted Infections in Canada: 2008*. (Ottawa: Public Health Agency of Canada).

161. Public Health Agency of Canada. (2011-02-22). *Reported cases and rates of chlamydia by age group and sex, 1991 to 2009* [Data File]. Retrieved on April 15, 2011, from http://www.phac-aspc.gc.ca/std-mts/sti-its_tab/chlamydia-eng.php

162. Public Health Agency of Canada. (2011-02-23). *Reported cases and rates of infectious syphilis by age group and sex, 1993 to 2009* [Data File]. Retrieved on April 15, 2011, from http://www.phac-aspc.gc.ca/std-mts/sti-its_tab/syphilis-eng.php

163. Public Health Agency of Canada. (2011-02-22). *Reported cases and rates of gonorrhea by age group and sex, 1980 to 2009* [Data File]. Retrieved on April 15, 2011, from http://www.phac-aspc.gc.ca/std-mts/sti-its_tab/gonorrhea-eng.php

References

164. Health Canada. (2007-03-16). *First Nations, Inuit and Aboriginal Health. First Nations Comparable Health Indicators*. Retrieved on February 1, 2011, from http://www.hc-sc.gc.ca/fniah-spnia/diseases-maladies/2005-01_health-sante_indicat-eng.php

165. Public Health Agency of Canada. (2010-01-07). *STI Data Tables* [Data File]. Retrieved on September 16, 2010, from http://www.phac-aspc.gc.ca/std-mts/sti-its_tab/index-eng.php

166. Health Canada. (2010-09-08). *Healthy Living. Human Papillomavirus (HPV)*. Retrieved on February 9, 2011, from http://www.hc-sc.gc.ca/hl-vs/iyh-vsv/diseases-maladies/hpv-vph-eng.php

167. The Society of Obstetricians and Gynaecologists of Canada. (n.d.). *HPV Immunization Strategies by Province*. Retrieved on February 24, 2011, from http://www.hpvinfo.ca/hpvinfo/teens/vaccination-4.aspx

168. Public Health Agency of Canada. (2010-05-14). *Canadian Guidelines on Sexually Transmitted Infections*. Retrieved on February 22, 2011, from http://www.phac-aspc.gc.ca/std-mts/sti-its/

169. Public Health Agency of Canada. (2010-02-22). *Global Engagement: The HIV/AIDS pandemic*. Retrieved on February 24, 2011, from http://www.phac-aspc.gc.ca/aids-sida/global/index-eng.php

170. Canadian Public Health Association. (2005). *Leading Together: Canada Takes Action on HIV/AIDS (2005-2010)*. (Ottawa: Canadian Public Health Association).

171. Leading Together Championing Committee. (n.d.). *Update from the Leading Together Championing Committee – Spring 2010*. Retrieved on November 26, 2010, from http://www.leadingtogether.ca/9_cc_update2.html

172. United Nations. (1989). *The Convention on the Rights of the Child.*

173. Public Health Agency of Canada. (2011-02-09). *National Child Day: The United Nations Convention on the Rights of the Child.* Retrieved on May 18, 2011, from http://www.phac-aspc.gc.ca/ncd-jne/convention-eng.php

174. Human Resources and Skills Development Canada. (2004-05-10). *A Canada Fit For Children. News Release*. Retrieved on June 20, 2011, from http://www.hrsdc.gc.ca/eng/cs/comm/sd/news/2004/040510.shtml

175. Government of Canada. (2004). *A Canada Fit for Children. Canada's plan of action in response to the May 2002 United Nations Special Session on Children.* (Ottawa).

176. Boomer, J. (2003). *Building and Sustaining Partnerships: A Resource Guide to Address Non-Traditional Tobacco Use*. (Prepared for First Nations and Inuit Health Branch, Health Canada). (Ottawa: Health Canada).

177. Shields, M. (2005). Youth Smoking. *Health Reports,* 16(3), 53-57.

178. Canadian Public Health Association. (n.d.). *12 Great Achievements. Fighting the Good Fight! From VD to HIV/AIDS*. Retrieved on February 9, 2011, from http://cpha100.ca/12-great-achievements/fighting-good-fight-vd-hivaids

179. Statistics Canada. *CANSIM Table 051-0001 Estimates of population, by age group and sex for July 1, Canada, provinces and territories, annual*. All computations on these microdata were prepared by Public Health Agency of Canada and the responsibility for the use and interpretation of these data is entirely that of the author(s).

180. Statistics Canada. (2011-04-07). *Age and Sex for the Population of Canada, Provinces, Territories, Census Divisions and Census Subdivisions, 2006 Census – 100% Data* [Data File]. Retrieved on June 27, 2011, from http://www12.statcan.gc.ca/census-recensement/2006/dp-pd/tbt/Rp-eng.cfm?LANG=E&APATH=3&DETAIL=0&DIM=0&FL=A&FREE=0&GC=0&GID=0&GK=0&GRP=1&PID=88989&PRID=0&PTYPE=88971,97154&S=0&SHOWALL=0&SUB=0&Temporal=2006&THEME=66&VID=0&VNAMEE=&VNAMEF=

181. Statistics Canada. (2010-12-01). *Age groups, Rural/Urban area, Immigrant status, Aboriginal Identity and Sex for Persons 12 to 29 years of age in Private Households of Canada, 2006 Census – 20% sample data* [Custom Data File]. Retrieved on December 6, 2010.

182. Statistics Canada. (2011-04-07). *Aboriginal Identity, Area of Residence, Age Groups and Sex for the Population of Canada, Provinces and Territories, 2006 Census – 20% Sample Data* [Data File]. Retrieved on June 28, 2011, from http://www12.statcan.gc.ca/census-recensement/2006/dp-pd/tbt/Rp-eng.cfm?LANG=E&APATH=3&DETAIL=0&DIM=0&FL=A&FREE=0&GC=0&GID=0&GK=0&GRP=1&PID=89121&PRID=0&PTYPE=88971,97154&S=0&SHOWALL=0&SUB=0&Temporal=2006&THEME=73&VID=0&VNAMEE=&VNAMEF=

183. Statistics Canada. (2009-09-22). *Table 6 – Age distribution and median age of the Inuit and non-Aboriginal populations, Canada, 2006* [Data File]. Retrieved on February 10, 2011, from http://www12.statcan.ca/census-recensement/2006/as-sa/97-558/table/t6-eng.cfm

184. Statistics Canada. (2011-04-07). *Census Family Status, Age Groups and Sex for the Population in Private Households of Canada, Provinces, Territories, Census Metropolitan Areas and Census Agglomerations, 2006 Census – 20% Sample Data* [Data File]. Retrieved on June 28, 2011, from http://www12.statcan.gc.ca/census-recensement/2006/dp-pd/tbt/Rp-eng.cfm?LANG=E&APATH=3&DETAIL=0&DIM=0&FL=A&FREE=0&GC=0&GID=0&GK=0&GRP=1&PID=89024&PRID=0&PTYPE=88971,97154&S=0&SHOWALL=0&SUB=688&Temporal=2006&THEME=68&VID=0&VNAMEE=&VNAMEF=

185. Statistics Canada. (2011-04-07). *Age Group of Child, Census Family Structure and Sex for the Children in Census Families in Private Households of Canada, Provinces, Territories, Census Metropolitan Areas and Census Agglomerations, 2001 and 2006 Censuses – 20% Sample Data* [Data File]. Retrieved on June 28, 2011, from http://www12.statcan.gc.ca/census-recensement/2006/dp-pd/tbt/Rp-eng.cfm?LANG=E&APATH=3&DETAIL=0&DIM=0&FL=A&FREE=0&GC=0&GID=0&GK=0&GRP=1&PID=89021&PRID=0&PTYPE=88971,97154&S=0&SHOWALL=0&SUB=683&Temporal=2006&THEME=68&VID=0&VNAMEE=&VNAMEF=

186. Statistics Canada. (2010-03-09). *Census Family Status, Age Groups and Sex for the Population in Private Households, for Canada, Provinces, Territories, Census Metropolitan Areas and Census Agglomerations, 2001 Census – 20% Sample Data* [Data File]. Retrieved on November 29, 2010, from http://www12.statcan.ca/english/census01/products/standard/themes/RetrieveProductTable.cfm?Temporal=2001&PID=55732&APATH=3&GID=431515&METH=1&PTYPE=55440&THEME=39&FOCUS=0&AID=0&PLACENAME=0&PROVINCE=0&SEARCH=0&GC=0&GK=0&VID=0&VNAMEE=&VNAMEF=&FL=0&RL=0&FREE=0

187. Statistics Canada. (2010-12-01). *Age groups, Rural/Urban area, Immigrant status, Aboriginal Identity and Sex for Persons 12 to 29 years of age in Private Households of Canada, 1996 Census – 20% sample data* [Custom Data File]. Retrieved on December 6, 2010.

188. Dupuy, R., Mayer, F., & Morissette, R. (2000). *Rural Youth: Stayers, Leavers and Return Migrants.* (Ottawa: Statistics Canada).

189. Ballenger, J. C. & Lydiard, R. B. (1997). Panic Disorder: Results of a Patient Survey. *Human Psychopharmacology: Clinical and Experimental,* 19(S1), S27-S33.

190. Shaienks, D. & Gluszynski, T. (2009). *Education and Labour Market Transitions in Young Adulthood.* (Ottawa: Statistics Canada and Human Resources and Skills Development Canada).

191. Statistics Canada. (2008). *Earnings and Incomes of Canadians Over the Past Quarter Century, 2006 Census.* (Ottawa: Statistics Canada).

192. Statistics Canada. (2010-12-01). *LFS by education, detailed age, sex and province* [Custom Data File]. Retrieved on December 6, 2010.

193. Gilmore, J. (2010). Trends in Dropout Rates and the Labour Market Outcomes of Young Dropouts. *Education Matters: Insights on Education, Learning and Training in Canada,* 7(4).

194. Raymond, M. (2008). *High School Dropouts Returning to School.* (Ottawa: Statistics Canada).

195. Maxim, P. & White, J. (2006). School Completion and Workforce Transitions Among Urban Aboriginal Youth. In *Aboriginal Policy Research: Moving Forward, Making a Difference,* Volume 3, (pp. 33-52). (Toronto: Thompson Education Books).

196. Statistics Canada. (2008). *2006 Census: Educational Portrait of Canada, 2006 Census: Findings.* (Ottawa: Statistics Canada).

197. Organisation for Economic Co-operation and Development. (2010). *Education at a Glance 2010: OECD Indicators.* (OECD Publishing).

198. Statistics Canada. (2010-12-13). *Table E.1.2.2 Participation rate in education among 18- to 34-year-olds, by age group and type of institution attended, Canada, provinces and territories, 1995/1996, 2000/2001 and 2005/2006 to 2009/2010* [Data File]. Retrieved on June 6, 2011, from http://www.statcan.gc.ca/pub/81-582-x/2010004/tbl/tble1.2.2-eng.htm

199. Statistics Canada. (2011-04-07). *Major Field of Study – Classification of Instructional Programs, 2000, Highest Postsecondary Certificate, Diploma or Degree, Age Groups and Sex for the Population 15 Years and Over With Postsecondary Studies of Canada, Provinces, Territories, Census Metropolitan Areas and Census Agglomerations, 2006 Census – 20% Sample Data* [Data File]. Retrieved on June 28, 2011, from http://www12.statcan.gc.ca/census-recensement/2006/dp-pd/tbt/Rp-eng.cfm?TABID=1&LANG=E&A=R&APATH=3&DETAIL=0&DIM=0&FL=A&FREE=0&GC=01&GID=837928&GK=1&GRP=1&O=D&PID=93582&PRID=0&PTYPE=88971,97154&S=0&SHOWALL=0&SUB=0&Temporal=2006&THEME=75&VID=0&VNAMEE=&VNAMEF=&D1=1&D2=0&D3=0&D4=0&D5=0&D6=0

200. Statistics Canada. *CANSIM Table 282-0004 Labour force survey estimates (LFS), by educational attainment, sex and age group, annual.* All computations on these microdata were prepared by Public Health Agency of Canada and the responsibility for the use and interpretation of these data is entirely that of the author(s).

References

201. Statistics Canada. (2011-04-07). *Occupation – Standard Occupational Classification 1991 (Historical), Age Groups and Sex for the Labour Force 15 Years and Over of Canada, Provinces, Territories, Census Metropolitan Areas and Census Agglomerations, 1996 to 2006 Censuses – 20% Sample Data* [Data File]. Retrieved on April 27, 2011, from http://www12.statcan.gc.ca/census-recensement/2006/dp-pd/tbt/Rp-eng.cfm?LANG=E&APATH=3&DETAIL=0&DIM=0&FL=A&FREE=0&GC=0&GID=0&GK=0&GRP=1&PID=92105&PRID=0&PTYPE=88971,97154&S=0&SHOWALL=0&SUB=0&Temporal=2006&THEME=74&VID=0&VNAMEE=&VNAMEF=

202. Statistics Canada. (2006). Latest release from the Labour Force Survey. *The Daily [Friday, May 6, 2011].*

203. Shillington, R. (1999-01-29). *What Should be the True Definition of Poverty?* Retrieved on June 8, 2011, from http://www.shillington.ca/poverty/ts012999.htm

204. Smith, A. (1904). *An Inquiry into the Nature and Causes of the Wealth of Nations*. Fifth Edition. (London: Methuen & Co., Ltd.).

205. Statistics Canada. (2010). *Low Income Lines, 2008-2009*. (Ottawa: Statistics Canada).

206. Statistics Canada. (2011-04-21). *Survey of Labour and Income Dynamics: Reference year 1976 – 2008. Youths, aged 12 to 19 years, and Young adults, aged 20 to 29 years, living in low income households, after tax* [Custom Data File]. Retrieved on April 21, 2011.

207. Statistics Canada. (2010-12-01). *Average before and after tax income, Canada (current dollars)* [Custom Data File]. Retrieved on December 6, 2010.

208. Canadian Council on Learning. (2010-09-22). Tallying the Costs of Post-secondary Education: The Challenge of Managing Student Debt and Loan Repayment in Canada. *Challenges in Canadian Post-secondary Education [3]*.

209. Berger, J. (2009). Student debt in Canada. In J. Berger, A. Motte, & A. Parkin (Eds.), *The Price of Knowledge: Access and Student Finance in Canada*, Fourth Edition, (pp. 181-206). (Montreal: Canada Millennium Scholarship Foundation).

210. Government of Canada. (2006). *The Human Face of Mental Health and Mental Illness in Canada.*

211. *Mental Health in Youth and Education. Consensus paper*. (2008). (Luxembourg: European Communities).

212. Canadian Mental Health Association (Ontario). (2009-09). *The Connection between Mental and Physical Health*. Retrieved on June 8, 2011, from http://www.ontario.cmha.ca/fact_sheets.asp?cID=3963

213. Himelhoch, S., Lehman, A., Kreyenbuhl, J., Daumit, G. et al. (2004). Prevalence of Chronic Obstructive Pulmonary Disease Among Those With Serious Mental Illness. *American Journal of Psychiatry*, 161(12), 2317-2319.

214. McIntyre, R. S., Konarski, J. Z., Soczynska, J. K., Wilkins, K. et al. (2006). Medical Comorbidity in Bipolar Disorder: Implications for Functional Outcomes and Health Service Utilization. *Psychiatric Services*, 57(8), 1140-1144.

215. Keyes, C. L. M. (2007). Promoting and Protecting Mental Health as Flourishing: A Complementary Strategy for Improving National Mental Health. *American Psychologist*, 62(2), 95-108.

216. Keyes, C. L. M. (2002). The Mental Health Continuum: From Languishing to Flourishing in Life. *Journal of Health and Social Behavior*, 43 (June)(2), 207-222.

217. Pape, B. & Galipeault, J.-P. (2002). *Mental Health Promotion for People with Mental Illness – A Discussion Paper*. (Prepared for Mental Health Promotion Unit of Health Canada).

218. Canadian Institute for Health Information. (2009). *Improving the Health of Canadians: Exploring Positive Mental Health.* (Ottawa: Canadian Institute for Health Information).

219. Statistics Canada. *Canadian Community Health Survey, 2009: Annual* [Share Microdata File]. Ottawa, Ontario: Statistics Canada. All computations on these microdata were prepared by Public Health Agency of Canada and the responsibility for the use and interpretation of these data is entirely that of the author(s).

220. First Nations Information Governance Centre. (2011). *RHS Phase 2 (2008/10) Preliminary Results – Adult, Youth, Child, revised edition.*

221. Statistics Canada. (2011-06-28). *CANSIM Table 105-0501 Health indicator profile, annual estimates, by age group and sex, Canada, provinces, territories, health regions (2007 boundaries) and peer groups, occasional* [Data File]. Retrieved on June 28, 2011, from http://cansim2.statcan.gc.ca/cgi-win/cnsmcgi.exe?Lang=E&RootDir=CII/&ResultTemplate=CII/CII___&Array_Pick=1&ArrayId=1050501

222. Taylor, C., Peter, T., Schachter, K., Paquin, S. et al. (2008). *Youth Speak Up about Homophobia and Transphobia: The First National Climate Survey on Homophobia in Canadian Schools. Phase One Report.* (Toronto: Egale Canada Human Rights Trust).

223. Orpana, H. M., Lemyre, L., & Gravel, R. (2009). Income and psychological distress: The role of the social environment. *Health Reports,* 20(1), 21-28.

224. Heisz, A. & McLeod, L. (2004). *Low-income in Census Metropolitan Areas, 1980-2000.* (Ottawa: Statistics Canada).

225. Evenson, J. (2009). *Youth Homelessness in Canada: The Road to Solutions.* (Toronto: Raising the Roof).

226. Mental Health Commission of Canada. (2009). *Toward Recovery and Well-being: A Framework for a Mental Health Strategy for Canada.*

227. Link, B. G., Struening, E. L., Neese-Todd, S., Asmussen, S. et al. (2001). Stigma as a Barrier to Recovery: The Consequences of Stigma for the Self-Esteem of People With Mental Illnesses. *Psychiatric Services,* 52(12), 1621-1626.

228. Birkett, M., Espelage, D. L., & Koenig, B. (2009). LGB and Questioning Students in Schools: The Moderating Effects of Homophobic Bullying and School Climate on Negative Outcomes. *Journal of Youth and Adolescence,* 38(7), 989-1000.

229. Public Health Agency of Canada. (2010-04-08). *Questions & Answers: Sexual Orientation in Schools.* Retrieved on January 13, 2011, from http://www.phac-aspc.gc.ca/publicat/qasos-qose/qasos-qose-eng.php

230. McGill University. (n.d.). *Mood disorders.* Retrieved on December 2, 2010, from http://www.mcgill.ca/mentalhealth/depression/

231. World Health Organization. (2009-02). *Mortality and Burden of Disease Estimates for WHO Member States in 2004* [Data File]. Retrieved on December 2, 2010, from http://www.who.int/healthinfo/global_burden_disease/gbddeathdalycountryestimates_persons_age_2004.xls

232. Statistics Canada. (2007-06-22). *CANSIM Table 105-1100 Mental Health and Well-being profile, Canadian Community Health Survey (CCHS), by age group and sex, Canada and provinces, occasional* [Data File]. Retrieved on December 2, 2010, from http://cansim2.statcan.gc.ca/cgi-win/cnsmcgi.exe?Lang=E&RootDir=CII/&ResultTemplate=CII/CII___&Array_Pick=1&ArrayId=1051100

233. Statistics Canada. *Canadian Community Health Survey, 2002: Cycle 1.2* [Share Microdata File]. Ottawa, Ontario: Statistics Canada. All computations on these microdata were prepared by Public Health Agency of Canada and the responsibility for the use and interpretation of these data is entirely that of the author(s).

234. Shields, M. (2004). Social anxiety disorder – beyond shyness. *Health Reports,* 15(Supplement), 45-64.

235. Ramage-Morin, P. L. (2004). Panic disorder and coping. *Health Reports,* 15(Supplement), 31-44.

236. Yonkers, K. A., Zlotnick, C., Allsworth, J., Warshaw, M. et al. (1998). Is the Course of Panic Disorder the Same in Women and Men? *American Journal of Psychiatry,* 155(5), 596-602.

237. Wittchen, H. U. & Essau, C. A. (1993). Epidemiology of panic disorder: Progress and unresolved issues. *Journal of Psychiatric Research,* 27(Supplement 1), 47-68.

238. American Psychiatric Association. (2000). *Diagnostic and Statistical Manual of Mental Disorders.* Fourth edition. (Washington: American Psychiatric Association).

239. Roullin, F. (1997). Epidemiology of Panic Disorder. *Human Psychopharmacology: Clinical and Experimental,* 12(S1), S7-S12.

240. Health Canada & Canadian Population Health Initiative. (2003). *Women's Health Surveillance Report.* (Ottawa: Canadian Institute for Health Information).

241. Canadian Institute for Health Information. *Hospital Morbidity Database, 2006.* Ottawa, Ontario: Canadian Institute for Health Information. All computations on these microdata were prepared by Public Health Agency of Canada and the responsibility for the use and interpretation of these data is entirely that of the author(s).

242. (2008). Understanding Eating Disorders. *NIH MedlinePlus the Magazine, 3,* 17-19.

243. Smokowski, P. R. & Kopasz, K. H. (2005). Bullying in School: An Overview of Types, Effects, Family Characteristics, and Intervention Strategies. *Children and Schools,* 27(2), 101-110.

244. Kim, Y. S. & Leventhal, B. (2008). Bullying and suicide. A review. *International Journal of Adolescent Medicine and Health,* 20(2), 133-154.

245. Corvo, K. & deLara, E. (2010). Towards an integrated theory of relational violence: Is bullying a risk factor for domestic violence? *Aggression and Violent Behavior,* 15(3), 181-190.

246. McMaster, L. E., Connolly, J., Pepler, D., & Craig, W. M. (2002). Peer to peer sexual harassment in early adolescence: A developmental perspective. *Development and Psycopathology,* 14(1), 91-105.

References

247. Pepler, D. J. & Craig, W. (2007). *Binoculars on bullying: a new solution to protect and connect children.* (Voices for Children).

248. Saewyc, E. M., Skay, C. L., Pettingell, S. L., Reis, E. A. et al. (2006). Hazards of Stigma: The Sexual and Physical Abuse of Gay, Lesbian, and Bisexual Adolescents in the United States and Canada. *Child Welfare,* 85(2), 195-213.

249. Wells, K. (2009). Sieccan Newsletter: Research exploring the health, wellness, and safety concerns of sexual minority youth. *The Canadian Journal of Human Sexuality,* 18(4), 221-229.

250. Ogrodnik, L. (2010). *Child and Youth Victims of Police-reported Violent Crime, 2008.* (Ottawa: Statistics Canada).

251. Statistics Canada. (2010-12-01). *Victims of Violent Violations by Age Group, Sex, Accused-Victim Relationship, 2009* [Custom Data File]. Retrieved on April 29, 2011.

252. Statistics Canada. (2011). *Family Violence in Canada: A Statistical Profile.* (Ottawa: Statistics Canada).

253. Mahony, T. H. (2010). Police-reported dating violence in Canada, 2008. *Juristat,* 30(2).

254. Poulin, C. & Elliot, D. (2009). *A Picture of Health – Highlights from the 2008 BC Adolescent Health Survey.* (Vancouver: McCreary Centre Society).

255. Statistics Canada. (2010-12-07). *Deaths 2007, All Chapters* [Custom Data File]. Retrieved on December 21, 2010.

256. Cornell University Family Life Development Center. (n.d.). *What do we know about self-injury?* Retrieved on February 23, 2011, from http://www.crpsib.com/whatissi.asp

257. Power, J. & Brown, S. L. (2010). *Self-Injurious Behaviour: A Review of the Literature and Implications for Corrections.* (Correctional Service Canada).

258. Interdisciplinary National Self-Injury in Youth Network Canada. (n.d.). *General Information on Self-Injury.* Retrieved on February 23, 2011, from http://www.insync-group.ca/information.php

259. Nixon, M. K., Cloutier, P., & Jansson, S. M. (2008). Nonsuicidal self-harm in youth: a population-based survey. *Canadian Medical Association Journal,* 178(3), 306-312.

260. Canadian Mental Health Association. (n.d.). *Youth and Self Injury.* Retrieved on December 2, 2010, from http://www.cmha.ca/bins/content_page.asp?cid=3-1036

261. Polk, E. & Liss, M. (2007). Psychological characteristics of self-injurious behavior. *Personality and Individual Differences,* 43(3), 567-577.

262. Whitlock, J. (2009). *The Cutting Edge: Non-Suicidal Self-Injury in Adolescence.* (Ithica: Act for Youth Center of Excellence).

263. White Kress, V. E., Gibson, D. M., & Reynolds, C. A. (2004). Adolescents who self-injure: Implications and strategies for school counselors. *Professional School Counseling,* 7(3), 195-201.

264. Yates, T. M. (2004). The developmental psychopathology of self-injurious behavior: Compensatory regulation in posttraumatic adaptation. *Clinical Psychology Review,* 24(1), 35-74.

265. Fliege, H., Lee, J. R., Grimm, A., & Klapp, B. F. (2009). Risk factors and correlates of deliberate self-harm behavior: A systematic review. *Journal of Psychosomatic Research,* 66(6), 477-493.

266. Ross, S. & Heath, N. (2002). A Study of the Frequency of Self-Mutilation in a Community Sample of Adolescents. *Journal of Youth and Adolescence,* 31(1), 67-77.

267. Whitlock, J., Eckenrode, J., & Silverman, D. (2006). Self-injurious Behaviors in a College Population. *Pediatrics,* 117(6), 1939-1948.

268. York University. (2009-09-04). *Three out of 10 students in study intentionally harm themselves.* Retrieved on February 23, 2011, from http://www.yorku.ca/yfile/archive/index.asp?Article=13196

269. Canadian Institute for Health Information. (2011). *Health Indicators 2011.* (Ottawa: Canadian Institute for Health Information).

270. Statistics Canada. (2010-11-08). *CANSIM Table 102-0540 Deaths, by cause, Chapter XX: External causes of morbidity and mortality (V01 to Y89), age group and sex, Canada, annual* [Data File]. Retrieved on February 24, 2011, from http://cansim2.statcan.gc.ca/-cgi-win/cnsmcgi.pgm?Lang=E&ArrayId=1020540&Array_Pick=1&RootDir=CII/&ResultTemplate=CII/CII___

271. Health Canada. (2005). *A Statistical Profile on the Health of First Nations in Canada for the Year 2000.* (Ottawa: Health Canada).

272. Chandler, M. J. & Lalonde, C. E. (1998). Cultural Continuity as a Hedge against Suicide in Canada's First Nations. *Transcultural Psychiatry,* 35(2), 191-219.

273. Statistics Canada. (2010-05-21). *CANSIM Table 102-0704 Mortality, by selected causes of death (ICD-10) and sex, five-year average, Canada and Inuit regions, every 5 years* [Data File]. Retrieved on May 30, 2011, from http://www5.statcan.gc.ca/cansim/a05?id=1020704&stByVal=3&paSer=&lang=eng

274. Suicide Prevention Resource Center. (2008). *Suicide Risk and Prevention for Lesbian, Gay, Bisexual, and Transgender Youth.* (Prepared for the Center for Mental Health Services Substance Abuse and Mental Health Services Administration US Department of Health and Human Services). (Newton: Education Development Centre, Inc.).

275. Saewyc, E. M., Poon, C., Wang, N., Homma, Y. et al. (2007). *Not Yet Equal: The Health of Lesbian, Gay, & Bisexual Youth in BC.* (Vancouver: McCreary Centre Society).

276. Trans PULSE. (n.d.). *The Trans PULSE Project: Overview.* Retrieved on April 27, 2011, from http://transpulse.ca/aboutTransPulse.html#A4

277. Trans PULSE. (2010). Ontario's Trans Communities and Suicide: Transphobia is Bad for Our Health. *Trans PULSE E-Bulletin,* 1(2).

278. Association of Workers' Compensation Boards of Canada. (2009). *National Work Injury, Disease and Fatality Statistics, 2006-2008.* (Association of Workers' Compensation Boards of Canada).

279. Association of Workers' Compensation Boards of Canada. *National Work Injury Statistics Program, 2010.* All computations on these data were prepared by Public Health Agency of Canada and the responsibility for the use and interpretation of these data is entirely that of the author(s).

280. Public Health Agency of Canada. (2007). *Life and Breath: Respiratory Disease in Canada.* (Ottawa: Public Health Agency of Canada).

281. Northridge, J., Ramirez, O. F., Stingone, J. A., & Claudio, L. (2010). The Role of Housing Type and Housing Quality in Urban Children with Asthma. *Journal of Urban Health: Bulletin of the New York Academy of Medicine,* 87(2), 211-224.

282. Inuit Tapiriit Kanatami. (2010-03-10). *Inuit TB rate doubles to 185 times the rate of Canadian-born non-aboriginals; First Nations rate 31 times higher.* Retrieved on May 19, 2011, from http://www.itk.ca/media-centre/media-releases/inuit-tb-rate-doubles-185-times-rate-canadian-born-non-aboriginals-first

283. Menzies, D. (2003). Screening immigrants to Canada for tuberculosis: Chest radiography or tuberculin skin testing? *Canadian Medical Association Journal,* 169(10), 1035-1036.

284. Public Health Agency of Canada. *Canadian Tuberculosis Reporting System, 2010.* Tuberculosis Prevention and Control Program. All computations on these data were prepared by Public Health Agency of Canada and the responsibility for the use and interpretation of these data is entirely that of the author(s).

285. First Nations, Métis, & Inuit GBA. (n.d.). *Tuberculosis.* Retrieved on May 27, 2011, from http://www.aboriginalgba.ca/category.aspx?catid=121&rt=1

286. Clark, M., Riben, P., & Nowgesic, E. (2002). The association of housing density, isolation and tuberculosis in Canadian First Nations communities. *International Journal of Epidemiology,* 31(5), 940-945.

287. Canadian Institute for Health Information. (2006). *Improving the Health of Canadians: Promoting Healthy Weights.* (Ottawa: Canadian Institute for Health Information).

288. Statistics Canada. *Canada Health Survey, 1978* [Share Microdata File]. Ottawa, Ontario: Statistics Canada. All computations on these microdata were prepared by Public Health Agency of Canada and the responsibility for the use and interpretation of these data is entirely that of the author(s).

289. Statistics Canada. *Canadian Health Measures Survey, 2007: Cycle 1* [Share Microdata File]. Ottawa, Ontario: Statistics Canada. All computations on these microdata were prepared by Public Health Agency of Canada and the responsibility for the use and interpretation of these data is entirely that of the author(s).

290. Shields, M. (2006). Overweight and obesity among children and youth. *Health Reports,* 17(3), 27-42.

291. Cole, T. J., Flegal, K. M., Nicholls, D., & Jackson, A. A. (2007). Body mass index cut offs to define thinness in children and adolescents: international survey. *British Medical Journal,* 335(7612).

References

292. Health Canada. (2003). *Canadian Guidelines for Body Weight Classification in Adults.* (Ottawa: Health Canada).

293. Pérez, C. E. (2002). Health status and health behaviour among immigrants. *Health Reports,* 13(Supplement), 89-100.

294. Shields, M. & Tremblay, M. (2008). Screen time among Canadian adults: A profile. *Health Reports,* 19(2), 31-43.

295. Statistics Canada. *Canadian Community Health Survey, 2000: Cycle 1.1* [Share Microdata File]. Ottawa, Ontario: Statistics Canada. All computations on these microdata were prepared by Public Health Agency of Canada and the responsibility for the use and interpretation of these data is entirely that of the author(s).

296. Public Health Agency of Canada & Canadian Institute for Health Information. (2011). *Obesity in Canada: A Joint Report from the Public Health Agency of Canada and the Canadian Institute for Health Information.*

297. Garriguet, D. (2004). *Overview of Canadians' Eating Habits.* (Ottawa: Statistics Canada).

298. Statistics Canada. *Canadian Community Health Survey, 2004: Cycle 2.2* [Share Microdata File]. Ottawa, Ontario: Statistics Canada. All computations on these microdata were prepared by Public Health Agency of Canada and the responsibility for the use and interpretation of these data is entirely that of the author(s).

299. Kuhle, S. & Veugelers, P. J. (2008). Why does the social gradient in health not apply to overweight? *Health Reports,* 19(4), 7-15.

300. Park, J. (2009). Obesity on the job. *Perspectives on Labour and Income,* 10(2), 14-22.

301. He, X. Z. & Baker, D. W. (2005). Differences in leisure-time, household, and work-related physical activity by race, ethnicity, and education. *Journal of General Internal Medicine,* 20(3), 259-266.

302. Starky, S. (2005). *The Obesity Epidemic in Canada.* (Ottawa: Parliamentary Information and Research Services).

303. Health Canada. (2003). *Responding to the Challenge of Diabetes in Canada. First Report of the National Diabetes Surveillance System (NDSS), 2003.* (Ottawa: Health Canada).

304. Public Health Agency of Canada. (2008-07-25). *Diabetes Data – NDSS 2000-2001 to 2004-2005 Canadian, Provincial, and Territorial Data Tables (PDF) and Research Files (CSV)* [Data File]. Retrieved on November 16, 2010, from http://www.phac-aspc.gc.ca/ccdpc-cpcmc/ndss-snsd/english/diabetes_data/data_2000-2001-eng.php

305. Public Health Agency of Canada. (2008-07-25). *Diabetes Data – NDSS 1997-1998 to 1999-2000 Canadian, Provincial, and Territorial Data Tables (XLS) and Research Files (CSV)* [Data File]. Retrieved on February 17, 2011, from http://www.phac-aspc.gc.ca/ccdpc-cpcmc/ndss-snsd/english/diabetes_data/data_1997-2000-eng.php

306. Public Health Agency of Canada. *National Diabetes Surveillance System, 2010.* Centre for Chronic Disease Prevention and Control. All computations on these data were prepared by Public Health Agency of Canada and the responsibility for the use and interpretation of these data is entirely that of the author(s).

307. Daniels, S. R. (2006). The Consequences of Childhood Overweight and Obesity. *The Future of Children,* 16(1), 47-67.

308. Statistics Canada. *Aboriginal Peoples Survey: Adults, 2006* [Public-Use Microdata File]. Ottawa, Ontario: Statistics Canada. Special Surveys Division, Data Liberation Initiative [producer and distributor]. All computations on these microdata were prepared by Public Health Agency of Canada and the responsibility for the use and interpretation of these data is entirely that of the author(s).

309. Canadian Cancer Society's Steering Committee. (2009). *Canadian Cancer Statistics, 2009.* (Toronto: Canadian Cancer Society).

310. Public Health Agency of Canada, Canadian Council of Cancer Registries, and Statistics Canada. (2009-11-17). *Cancer Surveillance On-Line* [Data File]. Retrieved on November 1, 2010, from http://dsol-smed.hc-sc.gc.ca/dsol-smed/cancer/c_dis-eng.php

311. Public Health Agency of Canada. *Canadian Hospitals Injury Reporting and Prevention Program (CHIRPP), 2011.* Health Surveillance and Epidemiology Division. All computations on these data were prepared by Public Health Agency of Canada and the responsibility for the use and interpretation of these data is entirely that of the author(s).

312. Canadian Institute for Health Information. *National Ambulatory Care Reporting System, 2008.* Ottawa, Ontario: Canadian Institute for Health Information. All computations on these microdata were prepared by Public Health Agency of Canada and the responsibility for the use and interpretation of these data is entirely that of the author(s).

313. Oliver, L. N. & Kohen, D. E. (2010). Neighbourhood variation in hospitalization for unintentional injury among children and teenagers. *Health Reports*, 21(4), 9-18.

314. Association of Canadian Community Colleges. (2009). *Exemplary Practices in Addressing Workplace Health and Safety of Young Adults*. (Prepared for The Canadian Council on Learning Health and Learning Knowledge Centre Young Adults Work Group). (Canadian Council on Learning).

315. SexualityandU.ca. (n.d.). *Managing symptomatic and asymptomatic patients*. Retrieved on July 19, 2011, from http://www.sexualityandu.ca/en/health-care-professionals/sexually_transmitted_infections/managing-symptomatic-and-asymptomatic-patients

316. SexualityandU.ca. (n.d.). *Screening recommendations for asymptomatic individuals*. Retrieved on July 19, 2011, from http://www.sexualityandu.ca/en/health-care-professionals/sexually_transmitted_infections/screening-recommendations-for-asymptomatic-individuals

317. HealthLinkBC. (2011-02-15). *Check Your Symptoms. Exposure to Sexually Transmitted Infections. Topic Overview*. Retrieved on May 30, 2011, from http://www.healthlinkbc.ca/kb/content/symptom/stdis.html

318. Public Health Agency of Canada. (2010-04-19). *Human Papillomavirus (HPV)*. Retrieved on May 30, 2011, from http://www.phac-aspc.gc.ca/std-mts/hpv-vph/fact-faits-eng.php

319. Public Health Agency of Canada. (2010). *HIV and AIDS in Canada. Surveillance Report to December 31, 2009*. (Ottawa: Surveillance and Risk Assessment Division, Centre for Communicable Diseases and Infection Control, Public Health Agency of Canada).

320. Public Health Agency of Canada. *Enhanced Street Youth Surveillance (E-SYS) in Canada, 2011: Cycle 5*. Ottawa, Ontario: Centre for Communicable Diseases and Infection Control, Public Health Agency of Canada. All computations on these microdata were prepared by Public Health Agency of Canada and the responsibility for the use and interpretation of these data is entirely that of the author(s).

321. Klein, F., Amin Kotb, W. F. M., & Petersen, I. (2009). Incidence of human papilloma virus in lung cancer. *Lung Cancer*, 65(1), 13-18.

322. Steinberg, L. (2007). Risk Taking in Adolescence. New Perspectives From Brain and Behavioral Science. *Current Directions in Psychological Science*, 16(2), 55-59.

323. Tapert, S. F., Aarons, G. A., Sedlar, G. R., & Brown, S. A. (2001). Adolescent Substance Use and Sexual Risk-Taking Behavior. *Journal of Adolescent Health*, 28(3), 181-189.

324. Palk, G., Freeman, J., Gee Kee, A., Steinhardt, D. et al. (2011). The prevalence and characteristics of self-reported dangerous driving behaviours among a young cohort. *Transportation Research Part F: Traffic Psychology and Behaviour*, 14(2), 147-154.

325. Harris, C. R., Jenkins, M., & Glaser, D. (2006). Gender Differences in Risk Assessment: Why do Women Take Fewer Risks than Men? *Judgement and Decision Making*, 1(1), 48-63.

326. Pawlowski, B., Atwal, R., & Dunbar, R. I. M. (2008). Sex Differences in Everyday Risk-Taking Behavior in Humans. *Evolutionary Psychology*, 6(1), 29-42.

327. Bell, N. J., O'Neal, K. K., Feng, D., & Schoenrock, C. J. (1999). Gender and Sexual Risk. *Sex Roles*, 41(516), 313-332.

328. Tyler, J. & Lichtenstein, C. (1997). Risk, protective, AOD knowledge, attitude, and AOD behavior. Factors associated with characteristics of high-risk youth. *Evaluation and Program Planning*, 20(1), 27-45.

329. Wilson, M., Daly, M., Gordon, S., & Pratt, A. (1996). Sex Differences in Valuations of the Environment? *Population and Environment*, 18(2), 143-159.

330. Hess, N. H. & Hagen, E. H. (2006). Sex differences in indirect aggression. Psychological evidence from young adults. *Evolution and Human Behavior*, 27, 231-245.

331. Segalowitz, S. J., Santesso, D. L., Willoughby, T., Reker, D. L. et al. (2011). Adolescent peer interaction and trait surgency weaken medial prefrontal cortex responses to failure. *Social Cognitive and Affective Neuroscience*, 6(2).

332. Davidson, S. & Manion, I. (n.d.). *Youth and Mental Illness*. Retrieved on May 9, 2010, from http://publications.cpa-apc.org/browse/documents/20

333. Ontario Public Health Association. (n.d.). *Youth Engagement Project. A Research Report and Recommendations for OPHA to Support Public Health Staff to Enhance Protective Factors, Increase Resiliency and Reduce Illicit Drug Use with Students in Grades 6-8 in Ontario.*

334. Blais, J. (2006). Teenage Pregnancy: An ongoing phenomenon. *Sexpressions*, 2.

References

335. Santé et Services sociaux Québec. (n.d.). *Teenage pregnancy*. Retrieved on July 25, 2011, from http://www.msss.gouv.qc.ca/en/sujets/prob_sociaux/teenage_pregnancy.php#resources

336. Statistics Canada. *National Population Health Survey, 1996* [Share Microdata File]. Ottawa, Ontario: Statistics Canada. All computations on these microdata were prepared by Public Health Agency of Canada and the responsibility for the use and interpretation of these data is entirely that of the author(s).

337. Saewyc, E. M. (2011). Research on Adolescent Sexual Orientation: Development, Health Disparities, Stigma, and Resilience. *Journal of Research on Adolescence*, 21(1), 256-272.

338. Wargo, E. (2007). Adolescents and Risk: Helping Young People Make Better Choices. *Research Facts and Findings*, September, 1-4.

339. Council of Ministers of Education Canada. (2003). *Canadian Youth, Sexual Health, and HIV/AIDS Study 2002. Factors influencing knowledge, attitudes and behaviours*. (Canada: Council of Ministers of Education).

340. Paglia-Boak, A., Mann, R. E., Adlaf, E. M., & Rehm, J. (2009). *Drug Use Among Ontario Students, 1977-2009*. (Toronto: Centre for Addiction and Mental Health).

341. Adlaf, E. M., Demers, A., & Gliksman, L. (2005). *Canadian Campus Survey 2004*. (Toronto: Centre for Addiction and Mental Health).

342. Poulin, C. & Elliot, D. (2007). *Student Drug Use Survey in the Atlantic Provinces, 2007. Atlantic Technical Report*. (Halifax: Dalhousie University, Department of Community Health and Epidemiology).

343. Canadian Centre on Substance Abuse. (2007). *Substance Abuse in Canada: Youth in Focus*. (Ottawa: Canadian Centre on Substance Abuse).

344. Public Health Agency of Canada. (2007). *Canadian Street Youth and Substance Use. Findings from Enhanced Surveillance of Canadian Street Youth, 1999-2003*. (Ottawa: Public Health Agency of Canada).

345. Centre for Addiction and Mental Health. (2007). *Youth & Drugs and Mental Health: A Resource for Professionals*. (Toronto: Centre for Addiction and Mental Health).

346. Canadian Women's Health Network. (2010). *Young Women & Alcohol Abuse*. Retrieved on March 9, 2011, from http://www.cwhn.ca/en/node/42117

347. Simons-Morton, B. G., Farhat, T., ter Bogt, T. F. M., Hublet, A. et al. (2009). Gender specific trends in alcohol use: cross-cultural comparisons from 1998 to 2006 in 24 countries and regions. *International Journal of Public Health*, 54(Suppl 2), 199-208.

348. Poole, N. & Dell, C. A. (2005). *Girls, Women and Substance Use*. (Ottawa: Canadian Centre on Substance Abuse).

349. Thatcher, D. L. & Clark, D. B. (2008). Adolescents at Risk for Substance Use Disorders. Role of Psychological Dysregulation, Endophenotypes, and Environmental Influences. *Alcohol and Other Drugs*, 31(2), 168-176.

350. Brady, K. T. & Sinha, R. (2007). Co-Occurring Mental and Substance Use Disorders: The Neurobiological Effects of Chronic Stress. *Focus*, 5(2), 229-239.

351. Murphy, A., Chittenden, M., & The McCreary Centre Society. (2005). *Time Out II: A profile of BC youth in custody*. (Vancouver: McCreary Centre Society).

352. Chettiar, J., Shannon, K., Wood, E., Zhang, R. et al. (2010). Survival sex work involvement among street-involved youth who use drugs in a Canadian setting. *Journal of Public Health*, 32(3), 332-327.

353. Laye, A., Murphy, A., & McCreary Centre Society. (2002). *Between the Cracks: homeless youth in Vancouver*. (Vancouver: McCreary Centre Society).

354. National Aboriginal Health Organization. (2007). Substance use/abuse issues among Inuit in Canada. *Presentation to the Standing Committee of the Conference of Parliamentarians of the Arctic Region*, National Aboriginal Health Organization, Ottawa.

355. Statistics Canada. *Canadian Tobacco Use Monitoring Survey, 2009: Annual, Person File* [Share Microdata File]. Ottawa, Ontario: Statistics Canada. Special Surveys Division, Data Liberation Initiative [producer and distributor]. All computations on these microdata were prepared by Public Health Agency of Canada and the responsibility for the use and interpretation of these data is entirely that of the author(s).

356. Statistics Canada. *Canadian Tobacco Use Monitoring Survey, 1999: Annual, Person File* [Public-Use Microdata File]. Ottawa, Ontario: Statistics Canada. Special Surveys Division, Data Liberation Initiative [producer and distributor]. All computations on these microdata were prepared by Public Health Agency of Canada and the responsibility for the use and interpretation of these data is entirely that of the author(s).

357. Statistics Canada. *Canadian Tobacco Use Monitoring Survey, 2006: Annual, Person File* [Public-Use Microdata File]. Ottawa, Ontario: Statistics Canada. Special Surveys Division, Data Liberation Initiative [producer and distributor]. All computations on these microdata were prepared by Public Health Agency of Canada and the responsibility for the use and interpretation of these data is entirely that of the author(s).

358. Health Canada. *Youth Smoking Survey, 2008* [Share Microdata File]. Ottawa, Ontario: Statistics Canada. All computations on these microdata were prepared by Public Health Agency of Canada and the responsibility for the use and interpretation of these data is entirely that of the author(s).

359. Shields, M. (2007). Smoking-prevalence, bans and exposure to second-hand smoke. *Health Reports*, 18(3), 9-24.

360. Health Canada. (2010-09-27). *Table 9. Exposure of children at home to Environmental Tobacco Smoke (ETS), by province and age group, Canada 2009* [Data File]. Retrieved on June 30, 2011, from http://www.hc-sc.gc.ca/hc-ps/tobac-tabac/research-recherche/stat/_ctums-esutc_2009/ann-eng.php#t9

361. Health Canada. (2007-12-12). *Table 13. Exposure of children at home to Environmental Tobacco Smoke (ETS), by province and age group, Canada 2000* [Data File]. Retrieved on March 9, 2011, from http://www.hc-sc.gc.ca/hc-ps/tobac-tabac/research-recherche/stat/_ctums-esutc_2000/ann_table13-eng.php

362. Health Canada. (2010-09-27). *Canadian Tobacco Use Monitoring Survey (CTUMS) 2009 – Supplementary Tables – Annual* [Data File]. Retrieved on January 6, 2011, from http://www.hc-sc.gc.ca/hc-ps/tobac-tabac/research-recherche/stat/_ctums-esutc_2009/ann-eng.php

363. Public Health Agency of Canada. (2009). *Data Tables – The Maternity Experiences Survey (MES) 2006-2007*. (Ottawa: Public Health Agency of Canada).

364. Health Canada. (2010-06-30). *Health Concerns. Canadian Alcohol and Drug Use Monitoring Survey*. Retrieved on November 16, 2010, from http://www.hc-sc.gc.ca/hc-ps/drugs-drogues/stat/_2009/summary-sommaire-eng.php

365. Rehm, J., Patra, J., & Popova, S. (2006). Alcohol-attributable mortality and potential years of life lost in Canada 2001: implications for prevention and policy. *Addiction*, 101(3), 373-384.

366. World Health Organization. (2011). *Global status report on alcohol and health*. (Switzerland: World Health Organization).

367. Pak, T. (2010). Teen binge-drinking linked to adult depression: Study. *Proceedings of the 2010 Neuroscience Meeting Planner*, Society for Neuroscience, San Diego, US.

368. Dell, C. A. & Roberts, G. (2005). *Alcohol Use and Pregnancy: An Important Canadian Public Health and Social Issue*. (Ottawa: Public Health Agency of Canada).

369. Health Canada. *Canadian Alcohol and Drug Use Monitoring Survey, 2009* [Public-Use Microdata File]. Ottawa, Ontario: Health Canada. All computations on these microdata were prepared by Public Health Agency of Canada and the responsibility for the use and interpretation of these data is entirely that of the author(s).

370. Lea, S., Black, K., & Asbridge, M. (2009). An overview of injuries to adolescents and young adults related to substance use: data from Canadian emergency departments. *Canadian Journal of Emergency Medicine*, 11(4), 330-336.

371. Health Canada. *Canadian Addiction Survey, 2004* [Public-Use Microdata File]. Ottawa, Ontario: Health Canada. All computations on these microdata were prepared by Public Health Agency of Canada and the responsibility for the use and interpretation of these data is entirely that of the author(s).

372. Dell, C. A. & Beauchamp, T. (2006). *Youth Volatile Solvent Abuse FAQs*. (Ottawa: Canadian Centre on Substance Abuse).

373. Research Group on Drug Use. (2004). *Drug Use in Toronto*. (Toronto: Toronto Public Health).

374. Dell, C. A., Seguin, M., Hopkins, C., Tempier, R. et al. (2011). From Benzos to Berries: Treatment Offered at an Aboriginal Youth Solvent Abuse Treatment Centre Relays the Importance of Culture (In Review). *Canadian Journal of Psychiatry*, 56(2), 75-83.

References

375. Collins, C. (2006). *Substance Abuse Issues and Public Policy in Canada: IV. Prevalence of Use and its Consequences.* (Library of Parliament).

376. Centre for Addiction and Mental Health. (2011-07-01). *Do You Know... Cannabis*. Retrieved on July 5, 2011, from http://www.camh.net/About_Addiction_Mental_Health/Drug_and_Addiction_Information/cannabis_dyk.html

377. Health Canada. (2009-12-21). *Health Concerns: Cannabis/Marijuana (also hash, hash oil and hemp)*. Retrieved on June 1, 2011, from http://www.hc-sc.gc.ca/hc-ps/drugs-drogues/learn-renseigne/cannabis-eng.php

378. Centre for Addiction and Mental Health. (2011-07-01). *Do You Know... Cocaine*. Retrieved on July 5, 2011, from http://www.camh.net/About_Addiction_Mental_Health/Drug_and_Addiction_Information/cocaine_dyk.html

379. Centre for Addiction and Mental Health. (2011-07-01). *Do You Know... Ecstasy*. Retrieved on July 5, 2011, from http://www.camh.net/About_Addiction_Mental_Health/Drug_and_Addiction_Information/ecstasy_dyk.html

380. Centre for Addiction and Mental Health. (2011-07-01). *Do You Know... Hallucinogens*. Retrieved on July 5, 2011, from http://www.camh.net/About_Addiction_Mental_Health/Drug_and_Addiction_Information/hallucinogens_dyk.html

381. Health Canada. (2009-12-14). *Health Concerns: Ecstasy*. Retrieved on June 1, 2011, from http://www.hc-sc.gc.ca/hc-ps/drugs-drogues/learn-renseigne/ecstasy-eng.php

382. Health Canada. (2009-02-24). *Health Concerns: Cocaine and Crack Cocaine*. Retrieved on June 1, 2011, from http://www.hc-sc.gc.ca/hc-ps/drugs-drogues/learn-renseigne/cocaine-eng.php

383. Torjman, S. (2010-03). *Barriers to Post-secondary Education*. Retrieved on May 2, 2011, from http://www.caledoninst.org/Publications/PDF/861ENG.pdf

384. O'Dougherty-Wright, M. & Masten, A. S. (2006). Resilience Processes in Development: Fostering positive adaptation in the context of adversity. In S. Goldstein & R. B. Brooks (Eds.), *Handbook of Resilience in Children*, (pp. 17-38). (New York: Springer Science + Business Media, Inc.).

385. Masten, A. S. (2001). Ordinary Magic: Resilience Processes in Development. *American Psychologist,* 56(3), 227-238.

386. Werner, E. (2005). Resilience and Recovery: Findings from the Kauai Longitudinal Study. *Research, Policy and Practice in Children's Mental Health,* 19(1), 11-14.

387. Bodenmann, G., Ledermann, T., Sanders, M. R., & Cina, A. (2008). The efficacy of the Triple P-Positive Program in improving parenting and child behaviour. *Behaviour Research and Therapy,* 46(4), 411-427.

388. Sanders, M. R. (2008). Triple P-Positive Parenting Program as a public health approach to strengthening parenting. *Journal of Family Psychology,* 22(3), 506-517.

389. Petitclerc, A. & Braun, S. (2009). Triple P Positive Parenting Program. *Early Childhood Learning Knowledge Centre Bulletin,* 4(1), 7-8.

390. Public Safety Canada. (2008). *Family-Based Programs for Preventing and Reducing Juvenile Crime*. Retrieved on February 25, 2011, from http://www.publicsafety.gc.ca/res/cp/res/red-juv-cri-eng.aspx

391. Hahlweg, K., Heinrichs, N., Kuschel, A., Bertram, H. et al. (2010). Long-term outcome of a randomized controlled universal prevention trial through a positive parenting program: Is it worth the effort? *Child and Adolescent Psychiatry and Mental Health,* 4(14).

392. Ralph, A. and Sanders, M. R. (2004-08). The 'Teen Triple P' Positive Parenting Program: A Preliminary Evaluation. *[282]*, pp. 1-6.

393. Healthy Child Manitoba. (n.d.). *Population-Based Research*. Retrieved on June 23, 2011, from http://www.gov.mb.ca/healthychild/pdre/pop_based.html

394. Healthy Child Manitoba Office. (2011). *Annual Report 2009/10.* (Winnipeg: Healthy Child Manitoba).

395. Centre for Addiction and Mental Health. (2008-09-09). *Strengthening Families for the Future*. Retrieved on March 28, 2011, from http://www.camh.net/Publications/CAMH_Publications/strengthen_families.html

396. Foxcroft, D. R., Ireland, D., Lister-sharp, D. J., Lowe, G. et al. (2003). Longer-term primary prevention for alcohol misuse in young people: a systematic review. *Addiction,* 98(4), 397-411.

397. Spoth, R. L., Redmond, C., & Shin, C. (2001). Randomized Trial of Brief Family Interventions for General Populations: Adolescent Substance Use Outcomes 4 Years Following Baseline. *Journal of Consulting and Clinical Psychology,* 69(4), 627-642.

398. Workplace Safety and Insurance Board of Ontario. (2008-10-20). *You Can Never be Too Safe. WSIB Launches New Workplace Safety Awareness Campaign*. Retrieved on July 20, 2011, from http://www.wsib.on.ca/files/Content/News%20ReleaseWorkplaceSafetyAwareness/CoreCampaign2008.pdf

399. Echenberg, H. & Jensen, H. (2008). *Defining and Enumerating Homelessness in Canada*. (Ottawa: Parliamentary Information and Research Services).

400. Canadian Institute for Health Information. (2007). *Improving the Health of Canadians: Mental Health and Homelessness.* (Ottawa: Canadian Institute for Health Information).

401. Higgitt, N., Wingert, S., Ristock, J., Brown, M. et al. (2003). *Voices from the Margins: Experiences for Street-Involved Youth in Winnipeg.* (Winnipeg: Winnipeg Inner-city Research Alliance).

402. Covell, K. (2010-05-18). *The Rights of the Child Part Four: Child protection and youth on the street*. Retrieved on July 19, 2011, from http://www.aboutkidshealth.ca/En/News/Series/RightsOfChildren/Pages/The-Rights-of-Children-Part-Four-Child-protection-and-youth-on-the-street.aspx

403. Federation of Canadian Municipalities. (2008). *Quality of life in Canadian communities. Trend & Issues in Affordable Housing & Homelessness.* (Federation of Canadian Municipalities).

404. Millar, H. (2009). *Rehousing Vancouver's Street-Involved Youth.* (Ottawa: Canadian Policy Research Networks Inc.).

405. Alberta Secretariat for Action on Homelessness. (2008). *A Plan for Alberta: Ending Homelessness in 10 years.*

406. Eva's Initiatives. (n.d.). *Eva's Phoenix*. Retrieved on February 25, 2011, from http://www.evasinitiatives.com/e-phoenix.php

407. Eva's Initiatives. (n.d.). *Eva's Phoenix Tool Kit*. Retrieved on March 10, 2011, from http://www.evasinitiatives.com/EVAsToolKit/CHP-15/chapt_15-1.htm

408. The Learning Community. (n.d.). *Welcome to the Learning Community*. Retrieved on July 26, 2011, from http://learningcommunity.ca/

409. Eva's Initiatives. (n.d.). *2011 Awards for Innovation*. Retrieved on July 26, 2011, from http://www.evasinitiatives.com/innovationawards.php

410. Winland, D., Gaetz, S., & Patton, T. (2011). *Family Matters – Homeless Youth & Eva's Initiative's "Family Reconnect" Program.* (Toronto: The Canadian Homelessness Research Network Press).

411. St. John's Housing and Homelessness Network. (2008). *A Community Report Card on the state of Youth Homelessness in St. John's.* (St. John's: St. John's Housing and Homelessness Network).

412. Community Youth Network. (n.d.). *Choices for Youth*. Retrieved on July 21, 2011, from http://www.cyn-stjohns.nf.ca/main.php?sid=48

413. Community Youth Network. (n.d.). *Naomi Centre*. Retrieved on July 21, 2011, from http://www.cyn-stjohns.nf.ca/main.php?sid=59

414. Canada Mortgage and Housing Corporation. (2003). *Applicability of a Continuum of Care Model to Address Homelessness.* (Canada: Canada Mortgage and Housing Corporation).

415. Pathways to Housing Inc.(New York). (2005). 2005 APA Gold Award: Providing Housing First and Recovery Services for Homeless Adults with Severe Mental Illness. *Psychiatric Services,* 56(10), 1303-1305.

416. Mental Health Commission of Canada. (n.d.). *At Home*. Retrieved on March 31, 2011, from http://www.mentalhealthcommission.ca/English/Pages/homelessness.aspx

417. Ontario's Aboriginal Health Access Centres. (2010). *Our health, our future.* (Toronto: Association of Ontario Health Centres).

418. Wabano Centre for Aboriginal Health. (n.d.). *About Us*. Retrieved on February 21, 2011, from http://www.wabano.com/index.php?option=com_content&view=article&id=1&Itemid=60

419. Social Data Research Ltd. (2005). *Evaluation of and Recommendations for Services for the Aboriginal Homeless in Ottawa.* (Prepared for the City of Ottawa Community Capacity Building Team for Homelessness).

420. Wabano Centre for Aboriginal Health. (n.d.). *Mobile Health and Addictions Outreach Program*. Retrieved on February 21, 2011, from http://www.wabano.com/index.php?option=com_content&view=article&id=26&Itemid=28

421. Human Resources and Skills Development Canada. (2011-02-11). *Homelessness Partnering Strategy 2007 to 2011*. Retrieved on February 24, 2011, from http://www.hrsdc.gc.ca/eng/homelessness/hps_2007_2011.shtml

References

422. Human Resources and Skills Development Canada. (2011-06-28). *Homelessness Partnering Strategy*. Retrieved on July 13, 2011, from http://www.hrsdc.gc.ca/eng/homelessness/index.shtml

423. Human Resources Development Canada. (2003). *Evaluation of the National Homelessness Initiative: Implementation and Early Outcomes of the HRDC-based Components.*

424. Human Resources and Skills Development Canada. (2011). *Homelessness Partnering Strategy 2007 to 2011: Designated Communities.* Retrieved on February 23, 2011, from http://www.hrsdc.gc.ca/eng/homelessness/designated_communities/index.shtml

425. Human Resources and Skills Development Canada. (2009). *Homelessness Partnering Strategy 2007 to 2011: Outreach Communities.* Retrieved on February 23, 2011, from http://www.hrsdc.gc.ca/eng/homelessness/outreach_communities/index.shtml

426. Human Resources and Skills Development Canada. (2009). *Homelessness Partnering Strategy 2007 to 2011: Aboriginal Communities.* Retrieved on February 23, 2011, from http://www.hrsdc.gc.ca/eng/homelessness/aboriginal_communities/index.shtml

427. Alberta Secretariat for Action on Homelessness. (2010). *2009-10 Report to the Minister. Progress Report on the Implementation of A Plan for Alberta: Ending Homelessness in 10 Years.*

428. Human Resources and Skills Development Canada. (2009). *Homelessness Partnering Strategy 2007 to 2011: Homelessness Knowledge Development.* Retrieved on February 23, 2011, from http://www.hrsdc.gc.ca/eng/homelessness/knowledge_development/index.shtml

429. Human Resources and Skills Development Canada. (2011-05-06). *Welcome to HIFIS.* Retrieved on June 30, 2011, from http://www.hifis.ca/index-eng.shtml

430. World Health Organization. (1996). *Regional Guidelines. Development of health-promoting schools – A framework for action.* (Manila: World Health Organization – Regional Office for the Western Pacific).

431. Stewart-Brown, S. (2006). *What is the evidence on school health promotion in improving health or preventing disease and, specifically, what is the effectiveness of the health promoting schools approach?* (Copenhagen: WHO Regional Office for Europe).

432. World Health Organization. (n.d.). *School and youth health. What is a health promoting school?* Retrieved on June 9, 2011, from http://www.who.int/school_youth_health/gshi/hps/en/index.html

433. World Health Organization. (2011). *School health and youth health promotion.* Retrieved on July 15, 2011, from http://www.who.int/school_youth_health/en/

434. UNESCO. (2002). *FRESH: A comprehensive school health approach to achieve EFA.* (Paris: UNESCO).

435. Veugelers, P. J. & Schwartz, M. E. (2010). Comprehensive school health in Canada. *Canadian Journal for Public Health,* 101(2), S5-S8.

436. Joint Consortium for School Health. (n.d.). *Joint Consortium for School Health: Governments Working Across the Health and Education Sectors.* Retrieved on July 25, 2011, from http://www.jcsh-cces.ca/upload/About%20the%20Consortium.pdf

437. Joint Consortium for School Health. (2010-11). Comprehensive School Health Highlights. *1 [1]*, pp. 1-4.

438. Pathways to Education Canada. (n.d.). *About us.* Retrieved on July 14, 2011, from http://www.pathwaystoeducation.ca/about.html

439. Pathways to Education Canada. (n.d.). *Essential Elements of Pathways to Education Program.* Retrieved on July 14, 2011, from http://www.pathwaystoeducation.ca/element.html

440. Pathways to Education Canada. (n.d.). *Measured Results.* Retrieved on July 14, 2011, from http://www.pathwaystoeducation.ca/results.html

441. Council of Ontario Universities. (n.d.). *Professor awarded grant to study struggling students.* Retrieved on June 9, 2011, from http://www.cou.on.ca/news/media-releases/university/professor-awarded-grant-to-study-struggling-studen.aspx

442. The Boston Consulting Group. (2007). *BCG Assessment of Pathways to Education: Executive Summary.* (The Boston Consulting Group).

443. Association of Universities and Colleges of Canada. (2007). *Trends in higher education: Volume 1 – Enrolment.* (Ottawa: The Association of Universities and Colleges of Canada).

444. Government of Canada. (2011). *The Next Phase of Canada's Economic Action Plan. A Low-Tax Plan for Jobs and Growth.* (Ottawa: Government of Canada).

445. Canadian Council on Learning. (2009-04-01). *Post-secondary education in Canada: Who is missing out?* Retrieved on May 2, 2011, from http://www.ccl-cca.ca/pdfs/LessonsInLearning/04_01_09-E.pdf

446. Centre for Aboriginal Human Resource Development Inc. (n.d.). *Centre for Aboriginal Human Resource Development Inc. 2008-2009 Annual Report.*

447. Indian and Northern Affairs Canada. (2009-12-21). *Centre for Aboriginal Human Resource Development Inc.* Retrieved on March 15, 2011, from http://www.ainc-inac.gc.ca/ap/ss/wp/index-eng.asp

448. Lynch, J., Smith, G. D., Harper, S., Hillemeier, M. et al. (2004). Is Income Inequality a Determinant of Population Health? Part 1. A Systematic Review. *The Milbank Quarterly,* 82(1), 5-99.

449. Wilkins, R., Berthelot, J.-M., & Ng, E. (2002). Trends in mortality by neighbourhood income in urban Canada from 1971 to 1996. *Health Reports,* 13(Supplement), 45-73.

450. Government of Canada. (2010-06-23). *Youth Eco Internship Program*. Retrieved on November 15, 2010, from http://ywcacanada.ca/en/pages/yeip/introduction

451. Frank, L. D., Anderson, M. A., & Schmid, T. L. (2004). Obesity Relationships with Community Design, Physical Activity, and Time Spent in Cars. *American Journal of Preventive Medicine,* 27(2), 87-96.

452. Public Health Agency of Canada. (2011). *Curbing Childhood Obesity: A Federal, Provincial and Territorial Framework for Action to Promote Healthy Weights.*

453. Louv, R. (2007). Leave No Child Inside. *Proceedings of the Testimony for the Interior and Environmental Subcommittee presented to the United States House of Representatives.*

454. Flynn, R. J. (2008). Communities that Care: A Comprehensive System for Youth Prevention and Promotion, and Canadian Applications to Date. *IPC Review,* 2, 83-106.

455. Hawkins, J. D. (1999). Preventing Crime and Violence Through Communities that Care. *European Journal on Criminal Policy and Research,* 7(4), 443-458.

456. The International Resilience Project. (2006). *International Resilience Project: Project Report.* (Halifax: The International Resilience Project, School of Social Work).

457. Ungar, M., Brown, M., Liebenberg, L., Cheung, M. et al. (2008). Distinguishing differences in pathways to resilience among Canadian youth. *Canadian Journal of Community Mental Health,* 27(1), 1-13.

458. Ungar, M. (2008). Resilience across Cultures. *British Journal of Social Work,* 38(2), 218-235.

459. Ungar, M. (2005). Introduction. In M. Ungar (Ed.), *Handbook for working with children and youth: Pathways to resilience across cultures and contexts,* (pp. xxviii-xxxix). (California: Sage Publications).

460. Seccombe, K. (2002). "Beating the Odds" Versus "Changing the Odds": Poverty, Resilience, and Family Policy. *Journal of Marriage and Family,* 64(2), 384-394.

461. Goldstein, S. & Brooks, R. B. (2006). Why study resilience? In S. Goldstein & R. B. Brooks (Eds.), *Handbook of Resilience in Children,* (pp. 3-16). (New York: Springer Science + Business Media Inc.).

462. Kaplan, H. B. (2006). Understanding the Concept of Resilience. In S. Goldstein & R. B. Brooks (Eds.), *Handbook of Resilience in Children,* (pp. 39-48). (New York: Springer Science + Business Media Inc.).

463. Goldstein, S. & Brooks, R. B. (2006). The Future of Children Today. In S. Goldstein & R. B. Brooks (Eds.), *Handbook of Resilience in Children,* (pp. 397-400). (New York: Springer Science + Business Media Inc.).

464. Barankin, T. & Khanlou, N. (2009). *Growing Up Resilient: Ways to Build Resilience in Children and Youth.* (Toronto: Centre for Addiction and Mental Health).

465. Resilience Research Centre. (2010-12-08). *The Resilience Research Centre (RRC)*. Retrieved on June 27, 2011, from http://www.resilienceproject.org/index.html

466. The International Resilience Project. (2006). *Southern Canada.* (Halifax: The International Resilience Project).

467. The International Resilience Project. (2006). *Northern Canada.* (Halifax: The International Resilience Project).

468. Resilience Research Centre. (2009-12-23). *Pathways Taken by Youth*. Retrieved on May 3, 2011, from http://www.resilienceproject.org/resilience_10374.html

469. Pollack, W. S. (2006). Sustaining and Reframing Vulnerability and Connection: Creating Genuine Resilience in Boys and Young Males. In S. Goldstein & R. B. Brooks (Eds.), *Handbook of Resilience in Children*, (pp. 65-77). (New York: Springer Science + Business Media Inc.).

470. Jordan, J. V. (2006). Relational Resilience in Girls. In S. Goldstein & R. B. Brooks (Eds.), *Handbook of Resilience in Children*, (pp. 79-90). (New York: Springer Science + Business Media Inc.).

471. Hawkins, S. R., Graham, P. W., Williams, J., & Zahn, M. A. (2009). *Resilient Girls – Factors that protect against delinquency*. (Washington D.C.: U.S. Department of Justice, Office of Juvenile Justice and Delinquency Prevention, Girls Study Group).

472. Cinq-Mars, C., Wright, J., Cyr, M., & McDuff, P. (2003). Sexual at-risk behaviors of sexually abused adolescent girls. *Journal of Child Sexual Abuse*, 12(2), 1-18.

473. Grace, A. P. (2011). *Using Sexual-Minority Youth Resilience to Inform Queer Critical Theory Building and Educational Policy Making*. Retrieved on June 9, 2011, from http://www.ismss.ualberta.ca/research.htm

474. Jackson, C., Haw, S., & Frank, J. (2010). *Adolescent and Young Adult Health in Scotland: Interventions that address multiple risk behaviors or take a generic approach to risk in youth*. (Edinburgh: Scottish Collaboration for Public Health Research).

475. PHAC Innovation Strategy, Strategic Initiatives and Innovations Directorate Health Promotion and Chronic Disease Prevention Branch. (n.d.). *Diagram: Promoting Mental Health & Well-Being. Building Protective Factors across the Life Course*, (Informed by evidence based research for mental health promotion [Keleher & Armstrong, 2005]). Unpublished.

476. National Mental Health Development Unit. (2010). *Public mental health and well-being*. (London: Department of Health, United Kingdom).

477. The Standing Senate Committee on Social Affairs, Science, & Technology. (2006). *Out of the Shadows at Last. Transforming Mental Health, Mental Illness and Addiction Services in Canada*.

478. Chromik Consulting & Research Limited. *Inequalities in Mental Health and Vulnerable Populations*. Unpublished.

479. Settersten, R. A. (2004). Social Policy and the Transition to Adulthood. 16. (MacArthur Foundation Research Network on Transitions to Adulthood and Public Policy).

480. Aneshensel, C. S. (2009). Toward Explaining Mental Health Disparities. *Journal of Health and Social Behavior*, 50(4), 377-394.

481. World Health Organization. (2004). *Prevention of Mental Disorders: Effective interventions and policy options*. (Geneva: World Health Organization).

482. Horowitz, J. L. & Garber, J. (2006). The prevention of depressive symptoms in children and adolescents: A meta-analytic review. *Journal of Consulting and Clinical Psychology*, 74(3), 401-415.

483. Stice, E., Shaw, H., Bohon, C., Marti, C. N. et al. (2009). A Meta-Analytic Review of Depression Prevention Programs for Children and Adolescents: Factors that Predict Magnitude of Intervention Effects. *Journal of Consulting and Clinical Psychology*, 77(3), 486-503.

484. Kavanagh, J., Oliver, S., Lorenc, T., Caird, J. et al. (2009). School-based cognitive-behavioral interventions: A systematic review of effects and inequalities. *Health Sociology Review*, 18(1), 61-78.

485. Payne, K. A. & Myhr, G. (2010). Increasing Access to Cognitive-Behavioral Therapy (CBT) for the Treatment of Mental Illness in Canada: A Research Framework and Call for Action. *Healthcare Policy*, 5(3), e173-e185.

486. Blake, S. M., Amaro, H., Schwartz, P. M., & Flinchbaugh, L. J. (2001). A Review of Substance Abuse Prevention Interventions for Young Adolescent Girls. *The Journal of Early Adolescence*, 21(3), 294-324.

487. Centre for Addiction and Mental Health. (2008-01-16). *Best practice guidelines for mental health promotion programs: Children and Youth*. Retrieved on July 20, 2011, from http://www.camh.net/About_CAMH/Health_Promotion/Community_Health_Promotion/Best_Practice_MHYouth/index.html

488. World Health Organization. (2003). *Caring for children and adolescents with mental disorders: Setting WHO directions*. (Geneva: World Health Organization).

489. Schachter, H. M., Girardi, A., Ly, M., Lacroix, D. et al. (2008). Effects of school-based interventions on mental health stigmatization: a systematic review. *Child and Adolescent Psychiatry and Mental Health*, 2(18).

490. Short, K., Ferguson, B., & Santor, D. (2009). *Scanning the practice landscape in school-based mental health*. (Ottawa: The Provincial Centre of Excellence for Child and Youth Mental Health at CHEO).

491. Anderson, J. E. & Lowen, C. A. (2010). Connecting youth with health services. Systematic review. *Canadian Family Physician*, 56(8), 778-784.

492. Mental Health Table Forum. (2010). *Which Doors Lead to Where? How to Enhance Access to Mental Health Service: Barriers, Facilitators and Opportunities for Canadians' Mental Health*. (Ottawa: Mental Health Table Forum).

493. Johnson, C., Eva, A. L., Johnson, L., & Walker, B. (2011). Don't Turn Away: Empowering Teachers to Support Students' Mental Health. *The Clearing House*, 84(1), 9-14.

494. Kroes, G. & Watling, J. (2009). *Healthy Transitions to Adulthood: Moving to Integrated Mental Health Care. Workshop Report*. (Ottawa: Policy Research Initiative).

495. Ministry of Children and Youth Services. (2006). *A Shared Responsibility. Ontario's Policy Framework for Child and Youth Mental Health*. (Toronto: Queen's Printer for Ontario).

496. Centres for Disease Control and Prevention. (2011-05-02). *Workplace Health Promotion. Depression*. Retrieved on June 9, 2011, from http://www.cdc.gov/workplacehealthpromotion/implementation/topics/depression.html

497. Canadian Centre for Occupational Health and Safety. (2011-02-01). *Mental Health – Psychosocial Risk Factors in the Workplace*. Retrieved on June 9, 2011, from http://www.ccohs.ca/oshanswers/psychosocial/mentalhealth_risk.html

498. Mental Health Commission of Canada. (2011). *National standard of Canada for Psychological Health and Safety in the Workplace*. Retrieved on June 22, 2011, from http://www.mentalhealthcommission.ca/SiteCollectionDocuments/Workforce_2011/MHCC_ENG_BACKGROUNDER.pdf

499. Canadian Alliance on Mental Illness and Mental Health. (2008). *National Integrated Framework for Enhancing Mental Health Literacy in Canada: Final Report*. (Canadian Alliance on Mental Illness and Mental Health).

500. Mental Health Commission of Canada. (n.d.). *What is Mental Health First Aid Canada*. Retrieved on February 23, 2011, from http://www.mentalhealthfirstaid.ca/EN/about/Pages/default.aspx

501. Mental Health Commission of Canada. (n.d.). *Mental Health First Aid. Program History*. Retrieved on February 25, 2011, from http://www.mentalhealthfirstaid.ca/EN/about/Pages/ProgramHistory.aspx

502. Kitchener, B. A. & Jorm, A. F. (2002). Mental health first aid training for the public: evaluation of effects on knowledge, attitudes and helping behavior. *BMC Psychiatry*, 2(10).

503. Kitchener, B. A. & Jorm, A. F. (2006). Mental health first aid training: review of evaluation studies. *Australian and New Zealand Journal of Psychiatry*, 40(1), 6-8.

504. Kitchener, B. A. & Jorm, A. F. (2008). Mental Health First Aid: An international programme for early intervention. *Early Intervention in Psychiatry*, 2(1), 55-61.

505. The Jack Project. (n.d.). *Background and Mission*. Retrieved on July 22, 2011, from http://www.thejackproject.org/site/pdfs/TJP_Open_Minds_Handout.pdf

506. The Jack Project. (n.d.). *The Jack Project*. Retrieved on February 4, 2011, from http://www.thejackproject.org/

507. Martin, N. & Johnston, V. (2007). *A time for action: Tackling stigma and discrimination*. (Report to the Mental Health Commission of Canada).

508. Scheffer, R. (2003). *Addressing Stigma: Increasing Public Understanding of Mental Illness*. (Centre for Addiction and Mental Health).

509. Kirby, M. (2007). *Children's Mental Health is Everybody's Business*. (Address to the Empire Club, May 17, 2007, Toronto, ON).

510. Manion, I. G. (2010). Provoking Evolution in Child and Youth Mental Health in Canada. *Canadian Psychology*, 51(1), 50-57.

511. Mental Health Commission of Canada. (n.d.). *Opening Minds*. Retrieved on October 29, 2010, from http://www.mentalhealthcommission.ca/English/Pages/OpeningMinds.aspx

512. Boyer, R. (2001). A Conclusive Study on the Impact of The Partners for Life Program. *The Bulletin*, Fall-Winter 2001-2002, 1.

513. Martin, N. (2008). *International Anti-Stigma Initiatives*. (Calgary: Mental Health Commission of Canada).

514. European Commission. (2005). *Green Paper. Improving the mental health of the population: Towards a strategy on mental health for the European Union*. (Brussels: European Commission).

References

515. Jané-Llopis, E. & Anderson, P. (2005). *Mental Health Promotion and Mental Disorder Prevention. A policy for Europe.* (Nijmegen: Radboud University Nijmegen).

516. Jané-Llopis, E. & Barry, M. M. (2005). What makes mental health promotion effective? *Promotion and Education,* 12(2 suppl), 47-54.

517. Knapp, M., McDaid, D., Mossialos, E., & Thornicroft, G. (2007). Mental health policy and practice across Europe: an overview. In M. Knapp, D. McDaid, E. Mossialos, & G. Thornicroft (Eds.), *Mental health policy and practice across Europe: The future direction of mental health care,* (pp. 1-14). (Berkshire: Open University Press).

518. Mental Health Commission of Canada. (n.d.). *First Nations, Inuit and Métis*. Retrieved on February 24, 2011, from http://www.mentalhealthcommission.ca/English/Pages/FirstNationsInuitandMetis.aspx

519. The First Nations and Inuit Mental Wellness Advisory Committee. (2007). *Strategic Action Plan for First Nations and Inuit Mental Wellness DRAFT.* (The First Nations and Inuit Mental Wellness Advisory Committee).

520. Alainait Inuit-specific Mental Wellness Task Group. (2007). *Alianait Inuit Mental Wellness Action Plan.* (Ottawa: Inuit Tapiriit Kanatami).

521. World Health Organization. (2005). *Child and Adolescent Mental Health Policies and Plans.* (Singapore: World Health Organization).

522. Kutcher, S. & McLuckie, A. (2010). *Evergreen: A Child and Youth Mental Health Framework for Canada.* (Mental Health Commission of Canada).

523. Kutcher, S. & McLuckie, A. (2009). Evergreen: Towards a Child and Youth Mental Health Framework for Canada. *Journal of the Canadian Academy of Child and Adolescent Psychiatry,* 18(2), 89-91.

524. Mental Health Commission of Canada. (2011-06-08). *Mental Health Commission of Canada commends federal investment on child and youth mental health*. Retrieved on July 19, 2011, from http://www.mentalhealthcommission.ca/SiteCollectionDocuments/News/Child_Youth_PR_June_2011_ENG.pdf

525. Government of Quebec. (2010-06-29). *Psychological Harassment at Work*. Retrieved on February 24, 2011, from http://www.cnt.gouv.qc.ca/en/in-case-of/psychological-harassment-at-work/index.html

526. Public Health Agency of Canada. (2011-06-08). *Fact Sheet. Innovation Strategy – Mental Health*. Retrieved on June 10, 2011, from http://www.phac-aspc.gc.ca/media/nr-rp/2011/2011_0608_fs-fr-eng.php

527. World Health Organization. (2004-09-08). *Suicide huge but preventable public health problem*. Retrieved on April 19, 2011, from http://www.who.int/mediacentre/news/releases/2004/pr61/en/

528. World Health Organization. (2008). *Preventing Suicide: A Resource for Media Professionals.* (Geneva: World Health Organization, Department of Mental Health and Substance Abuse).

529. Penney, C., Senécal, S., Guimond, E., Bobet, E. et al. (2008). Suicide in Inuit Nunaat: An analysis of Suicide Rates and effect of Community-level Factors. *Proceedings of the Seeking Balance in a Changing North Open Assembly*, Northern Research Forum, Anchorage, US.

530. World Health Organization. (n.d.). *Suicide prevention (SUPRE)*. Retrieved on April 19, 2011, from http://www.who.int/mental_health/prevention/suicide/suicideprevent/en/

531. International Association for Suicide Prevention. (n.d.). *IASP Guidelines for Suicide Prevention*. Retrieved on June 28, 2011, from http://www.iasp.info/suicide_guidelines.php

532. International Association for Suicide Prevention. (n.d.). *IASP Task Force – Suicide and the Media*. Retrieved on July 18, 2011, from http://iasp.info/media_guidelines.php

533. Canadian Mental Health Association. (2011). *Reporting Suicide – Media Guidelines for Safe and Sensitive Coverage.* (Calgary Region: Canadian Mental Health Association).

534. Pearson, J. L., Stanley, B., King, C., & Fisher, C. (2001-01). *Issue to consider in intervention research with persons at high risk for suicidality*. Retrieved on July 19, 2011, from http://www.nimh.nih.gov/health/topics/suicide-prevention/issues-to-consider-in-intervention-research-with-persons-at-high-risk-for-suicidality.shtml

535. Silmere, H. & Stiffman, A. R. (2006). Factors associated with successful functioning in American Indian youths. *American Indian and Alaska Native Mental Health Research: The Journal of the National Centre,* 13(3), 23-47.

536. Chandler, M. J. & Lalonde, C. E. (2004). Transferring Whose Knowledge? Exchanging Whose Best Practices?: On Knowing About Indigenous Knowledge and Aboriginal Suicide. In J. P. White, P. Maxim, & D. Beavon (Eds.), *Aboriginal Policy Research: Setting the Agenda for Change*, Vol II, (pp. 111-123). (Toronto: Thompson Educational Pub.).

537. Assembly of First Nations. (2005). *First Nations Regional Longitudinal Health Survey (RHS) 2002/03 – Results for Adults, Youth and Children Living in First Nations Communities.* (Ottawa: Assembly of First Nations).

538. Aboriginal Healing Foundation. (2006). *Final Report of the Aboriginal Healing Foundation. Volume III. Promising Healing Practices in Aboriginal Communities.* (Ottawa: Aboriginal Healing Foundation).

539. Health Canada. (2011-04-27). *Indian Residential Schools Resolution Health Support Program*. Retrieved on July 19, 2011, from http://www.hc-sc.gc.ca/fniah-spnia/services/indiresident/irs-pi-eng.php

540. National Aboriginal Health Organization. (2010). *Backgrounder: World Suicide Prevention Day 2007*. Retrieved on November 12, 2010, from http://www.naho.ca/documents/it/2007_Suicide_Prevention_background.pdf

541. Flaming, D. & Bourassa, L. (n.d.). *Yellow Ribbon Program Evaluation – Palliser Regional Suicide Prevention Council*. Retrieved on June 22, 2011, from http://www.searchca.net/users/folder.asp?FolderID=2457

542. Artcirq. (2010). *About Us*. Retrieved on November 12, 2010, from http://www.artcirq.org/about.htm

543. Inuktitut. (2007). ArtCirq: Inuit Circus Troupe Capture International Audiences. *Inuktitut, Summer 2007*, 6-8.

544. Silenzio, V. M. B., Pena, J. B., Duberstein, P. R., Cerel, J. et al. (2007). Sexual Orientation and Risk Factors for Suicidal Ideation and Suicide Attempts Among Adolescents and Young Adults. *American Journal of Public Health*, 97(11), 2017-2019.

545. Silenzio, V. M. B., Duberstein, P. R., Tu, X., Tang, W. et al. (2009). Connecting the invisible dots: Reaching lesbian, gay, and bisexual adolescents and young adults at risk for suicide through online social networks. *Social Science and Medicine*, 69(3), 469-474.

546. It Gets Better Project. (n.d.). *What is the It Gets Better Project?* Retrieved on November 24, 2010, from http://www.itgetsbetter.org/pages/about-it-gets-better-project/

547. The Trevor Project. (n.d.). *About Trevor: Organization*. Retrieved on November 24, 2010, from http://www.thetrevorproject.org/organization

548. Australian Government. (2008). *A framework for prevention of suicide in Australia.* (Barton: Commonwealth of Australia).

549. Vogel, L. (2011). Canada suicide prevention efforts lagging, experts say. *Canadian Medical Association Journal*, 183(1), E27-E28.

550. Government of New Brunswick. (2007). *Connecting to life. Provincial Suicide Prevention Program.* (New Brunswick Health).

551. LivingWorks. (n.d.). *ASIST: The benefits live on*. Retrieved on March 14, 2011, from http://www.livingworks.net/page/ASIST:%20The%20benefits%20live%20on

552. Living Works. (n.d.). *Research and Evaluations*. Retrieved on March 14, 2011, from http://www.livingworks.net/page/Research%20and%20Evaluations

553. Health Canada. (2006-03-06). *First Nations, Inuit and Aboriginal Health. Suicide Prevention*. Retrieved on January 7, 2011, from http://www.hc-sc.gc.ca/fniah-spnia/promotion/suicide/index-eng.php

554. McMahon, R., O'Donnell, S., Smith, R., Woodman Simmonds, J. et al. (2010). *Putting the 'last-mile' first: Re-framing broadband development in First Nations and Inuit communities.* (Vancouver: Centre for Policy Research on Science and Technology (CPROST), Simon Fraser University).

555. Honouring Life Network. (n.d.). *About this site*. Retrieved on March 3, 2011, from http://www.honouringlife.ca/about/hln

556. O'Donnell, S., Molyneaux, H., Gorman, E., Milliken, M. et al. (2010). *Information and Communication Technologies to Support Health and Wellness in Remote and Rural First Nations Communities. Literature Review.* (Fredericton: National Research Council of Canada).

557. MacKay, M., Vincenton, J., Brussoni, M., Towner, E. et al. (2011). *Child Safety Good Practice Guide: Good investments in unintentional child injury prevention and safety promotion – Canadian Edition.* (Toronto: The Hospital for Sick Children).

558. Institute for Work & Health. (n.d.). *What we do*. Retrieved on April 28, 2011, from http://www.iwh.on.ca/what-we-do

559. Workers Compensation Board of British Columbia. (2007). *Student WorkSafe Program. Planning 10.* (Vancouver: Workers' Compensation Board of British Columbia).

References

560. Schulte, P. A., Stephenson, C. M., Okun, A. H., Palassis, J. et al. (2005). Integrating Occupational Safety and Health Information Into Vocational and Technical Education and Other Workforce Preparation Programs. *American Journal of Public Health,* 95(3), 404-411.

561. Institute for Work & Health. (2011). Immigrant Worker Safety: IWH develops OHS information tool for newcomers. *At Work,*(64), 1-8.

562. Institute for Work & Health. (2007). Can social marketing campaigns prevent workplace injury and illness? *At Work,*(49).

563. Lavack, A., Magnuson, S. L., Deshpande, S., Basil, D. Z. et al. (2008). Enhancing occupational health and safety in young workers: the role of social marketing. *International Journal of Nonprofit and Voluntary Sector Marketing,* 13(3), 193-204.

564. Workplace Safety and Insurance Board. (2007). *Annual Report, 2006.* (Toronto: Workplace Safety and Insurance Board).

565. Workplace Safety and Insurance Board. (2008). *Changing the way people think about workplace health and safety.* (Toronto: Workplace Safety and Insurance Board).

566. Lavack, A., Basil, M. D., Basil, D. Z., Deshpande, S. et al. (2008). *Using Social Marketing to Increase Occupational Health and Safety.* (Richmond: WorkSafeBC).

567. Vavrik, J. (2007). ICBC studies risky behaviors. *British Columbia Journal of Medicine,* 49(9), 480.

568. Fitzgerald, E. S. & Harrison, W. A. (1999). *Hazard Perception and Learner Drivers: A theoretical discussion and an in-depth survey of driving instructors.* (Victoria: Monash University Accident Research Centre).

569. Auto Insurance Quotes Ontario. (n.d.). *Auto Insurance Glossary*. Retrieved on June 22, 2011, from http://www.autoinsurancequotesontario.ca/car-insurance-glossary.html

570. Fell, J. C. & Voas, R. B. (2006). Mothers Against Drunk Driving (MADD): The First 25 Years. *Traffic Injury Prevention,* 7(3), 196-212.

571. Taylor, M. (2007-11-19). *In the News: MADD launches its Red Ribbon campaign*. Retrieved on July 18, 2011, from http://www.madd.ca/english/news/stories/n20071119.htm

572. MADD Canada. (n.d.). *MADD Canada's School Assembly Program and Materials*. Retrieved on July 25, 2011, from http://www.madd.ca/english/youth/maddatschool.html

573. CNW Group. (2011-05-11). *Campaign embraces new mediums: Smart Phone Apps and YouTube*. Retrieved on June 22, 2011, from http://www.cnw.ca/en/releases/archive/May2010/11/c2399.html

574. SADD Alberta Students Against Drinking and Driving. (n.d.). *CYAID Conference*. Retrieved on July 26, 2011, from http://www.saddalberta.com/index.php?option=com_content&view=article&id=47&Itemid=21

575. Government of Alberta Transportation. (n.d.). *Ignition Interlock Program*. Retrieved on June 9, 2011, from http://atsb.alberta.ca/506.htm

576. Volpe, R. & Lewko, J. (2006). *Road-Related Neurotrauma and Road Safety: Opportunities and Challenges for Prevention Science.* (Toronto: University of Toronto).

577. Willis, C., Lybrand, S., & Bellamy, N. (2004). Alcohol ignition interlock programmes for reducing drink driving recidivism (Review). *Cochrane Database of Systematic Reviews,*(3).

578. Government of Manitoba. (n.d.). *Manitoba's new cell phone law*. Retrieved on July 18, 2011, from http://www.gov.mb.ca/drivers/new_law.html

579. Blais, É. & Sergerie, D. (2008). *Public Health Advisory on the Effects of Cell Phone Use While Driving with Recommendations.* (Quebec: Institut national de santé publique du Québec).

580. Laberge-Nadeau, C., Maag, U., Bellavance, F., Lapierre, S. D. et al. (2003). Wireless telephones and the risk of road crashes. *Accident Analysis and Prevention,* 35(5), 649-660.

581. American Automobile Association. (2008). *Cell Phones and Driving: Research Update.* (Washington: AAA Foundation for Traffic Safety).

582. Canadian Automobile Association. (n.d.). *What is Distracted Driving?* Retrieved on June 9, 2011, from http://www.caa.ca/driventodistraction/what/index.html

583. Ontario Ministry of Transportation. (2010-06-20). *Reducing Distractions*. Retrieved on June 9, 2011, from http://www.mto.gov.on.ca/english/safety/distracted-driving/distractions.shtml

584. Leitch, K. K. (2007). *Reaching for the top: A Report by the Advisor in Healthy Children and Youth.* (Ottawa: Health Canada).

585. Pan, S. Y., Desmeules, M., Morrison, H., Semenciw, R. et al. (2011). Adolescent Injury Deaths and Hospitalization in Canada: Magnitude and Temporal Trends (1979-2003). *Journal of Adolescent Health,* 41(1), 84-92.

586. World Health Organization & UNICEF. (2008). *World report on child injury prevention.* (Geneva: World Health Organization).

587. Hemenway, D. (2008). Protecting Children from Firearm Violence. In *Big Ideas for Children: Investing in our Nation's Future,* (pp. 203-210). (Washington: First Focus).

588. Bergman, A. B. & Rivara, F. P. (1991). Sweden's Experience in Reducing Childhood Injuries. *Pediatrics,* 88(1), 69-74.

589. Ramsay, S. (2001). Child-injury death rates – do international comparisons help? *The Lancet,* 357(9254), 454.

590. Bergman, A. B. (2000). Ragner Berfenstam's Legacy. *Injury Prevention,* 6(1), 4.

591. Public Health Agency of Canada. (2009-04-22). *Canadian Hospitals Injury Reporting and Prevention Program*. Retrieved on July 18, 2011, from http://www.phac-aspc.gc.ca/injury-bles/chirpp/index-eng.php

592. Canadian Institute for Health Information. (n.d.). *National Trauma Registry*. Retrieved on July 18, 2011, from http://www.cihi.ca/CIHI-ext-portal/internet/en/document/types+of+care/specialized+services/trauma+and+injuries/services_ntr

593. Public Health Agency of Canada. (2005-10-03). *The Canadian Incidence Study of Reported Child Abuse and Neglect (CIS)*. Retrieved on July 18, 2011, from http://www.phac-aspc.gc.ca/cm-vee/cis-eng.php

594. Statistics Canada. (2009-12-16). *Canadian Coroner and Medical Examiner Database (CCMED)*. Retrieved on July 18, 2011, from http://www.statcan.gc.ca/cgi-bin/imdb/p2SV.pl?Function=getSurvey&SDDS=5125&lang=en&db=imdb&adm=8&dis=2

595. Safe Communities Canada. (n.d.). *About Safe Communities Canada*. Retrieved on July 18, 2011, from http://www.safecommunities.ca/aboutsafecommunities.php

596. SMARTRISK no regrets. (n.d.). *Discover SMARTRISK No Regrets*. Retrieved on June 22, 2011, from http://www.smartrisknoregrets.ca/index.php/aboutNR/

597. SMARTRISK no regrets. (n.d.). *SMARTRISK's Five Key Messages*. Retrieved on June 22, 2011, from http://smartrisknoregrets.ca/index.php/approach/item/smartrisks_five_key_messages/

598. SMARTRISK no regrets. (n.d.). *About No Regrets Live*. Retrieved on June 22, 2011, from http://www.smartrisknoregrets.ca/index.php/nrl-about/

599. SMARTRISK no regrets. (n.d.). *Parents and No Regrets*. Retrieved on July 20, 2011, from http://www.smartrisknoregrets.ca/index.php/parents/

600. PREVNet. (n.d.). *What is Bullying?* Retrieved on February 25, 2011, from http://www.prevnet.ca/Bullying/tabid/94/Default.aspx

601. Craig, W. M., Pepler, D. J., & Atlas, R. (1998). Observations of Bullying and Victimization in the School Yard. *Canadian Journal of School Psychology,* 13(2), 41-59.

602. Olweus, D. (1991). Bully/Victim Problems Among School Children: Basic Facts and Effects of a School-Based Intervention Program. In D. J. Pepler & K. H. Rubin (Eds.), *The Development and Treatment of Childhood Aggression,* (Hillsdale: Lawrence Eribaum Associates, Inc., Publishers).

603. Olweus, D. (1993). *Bullying at school – What we know and what we can do.* (Oxford: Blackwell Publishers Inc.).

604. Srabstein, J. C. & Leventhal, B. L. (2010). Prevention of bullying-related morbidity and mortality: a call for public health policies. *Bulletin of the World Health Organization,* 88(6), 403-404.

605. Srabstein, J. & Piazza, T. (2008). Public health, safety and educational risks associated with bullying behaviors in American adolescents. *International Journal of Adolescent Medicine and Health,* 20(2), 223-234.

606. World Health Organization. (2008). *Inequalities in young people's health. HBSC international report from the 2005/2006 survey.* (Scotland: World Health Organization).

607. Pepler, D. J. (2006). Bullying interventions: A Binocular Perspective. *Journal of the Canadian Academy of Child and Adolescent Psychiatry,* 15(1), 16-21.

References

608. Vreeman, R. C. & Carroll, A. E. (2007). A Systematic Review of School-Based Interventions to Prevent Bullying. *Archives of Pediatrics and Adolescent Medicine,* 161(1), 78-88.

609. Farrington, D. & Ttofi, M. M. (2009). *School-Based Programs to Reduce Bullying and Victimization.* (Campbell Systematic Reviews).

610. Olweus Bullying Prevention Program. (n.d.). *Research and History*. Retrieved on November 15, 2010, from http://www.olweus.org/public/bullying_research.page

611. Olweus Bullying Prevention Program. (n.d.). *The Olweus Bullying Prevention Program Overview*. Retrieved on July 15, 2011, from http://www.olweus.org/public/bullying_prevention_program.page

612. Olweus, D. (2004). The Olweus Bullying Prevention Programme: design and implementation issues and a new national initiative in Norway. In P. K. Smith, D. J. Pepler, & K. Rigby (Eds.), *Bullying in schools: how successful can interventions be?*, (pp. 13-36). (Cambridge: Cambridge University Press).

613. Olweus Bullying Prevention Program. (n.d.). *Success Stories*. Retrieved on November 15, 2010, from http://www.olweus.org/public/case_studies.page

614. National Crime Prevention Centre. (2008). *Bullying Prevention: Nature and Extent of Bullying in Canada.* (Public Safety Canada).

615. Canadian Public Health Association. (2003). *Bullying, School Exclusion and Literacy*. (Canadian Public Health Association).

616. Lumsden, L. (2002-03). *Preventing Bullying. ERIC Digest*. Retrieved on November 26, 2010, from http://www.ericdigests.org/2003-1/bullying.htm

617. Roots of Empathy. (n.d.). *Roots of Empathy: About Our Program*. Retrieved on June 27, 2011, from http://www.rootsofempathy.org/ProgDesc.html

618. Roots of Empathy. (2008). *Roots of Empathy: A Summary of Research Studies Conducted 2000-2007.* (Toronto: Roots of Empathy).

619. Public Safety Canada. (2009-02-06). *Bullying prevention in schools*. Retrieved on June 9, 2011, from http://www.publicsafety.gc.ca/res/cp/res/bully-eng.aspx#appa

620. PREVNet. (n.d.). *About Us*. Retrieved on November 26, 2010, from http://prevnet.ca/AboutUs/tabid/92/language/en-US/Default.aspx

621. PREVNet. (n.d.). *Four Strategy Pillars*. Retrieved on February 25, 2011, from http://www.prevnet.ca/AboutUs/FourStrategyPillars/tabid/101/Default.aspx

622. Canadian Centre for Occupational Health and Safety. (2005-03-08). *Bullying in the Workplace*. Retrieved on February 24, 2011, from http://www.ccohs.ca/oshanswers/psychosocial/bullying.html

623. Government of Canada: *Canadian Human Rights Act*, R.S.C., c. H-6, 1985.

624. Government of Manitoba. (2010-10-21). *Province announces new regulations to protect against psychological harassment in workplace*. Retrieved on February 24, 2011, from http://safemanitoba.com/uploads/Oct%202010%20News%20Release_New%20Workplace%20Regs.pdf

625. Government of Manitoba. (2011-01-31). *New Provisions to address intimidation, bullying and humiliation*. Retrieved on February 24, 2011, from http://news.gov.mb.ca/news/index.html?archive=2011-1-01&item=10765

626. Government of Ontario. (2010). *Workplace violence and harassment: Understanding the law.* (Toronto: Ministry of Labour, Ontario).

627. Government of Saskatchewan. (2008). *Working Well – Understanding Saskatchewan's Harassment Prevention Legislation and Promoting Healthy and Safe Work Environments.* (Saskatchewan Ministry of Advanced Education, Employment and Labour).

628. Government of Saskatchewan. (2008). *Working Well – Employers Guide to Preventing and Stopping Harassment in Saskatchewan Workplaces.* (Saskatchewan Ministry of Advanced Education, Employment and Labour).

629. World Health Organization. (n.d.). *Sexual Health*. Retrieved on January 6, 2011, from http://www.who.int/topics/sexual_health/en/

630. Health Canada. (2006-02-02). *Healthy Living. Sexual Health and Promotion*. Retrieved on June 23, 2011, from http://www.hc-sc.gc.ca/hl-vs/sex/index-eng.php

631. Flicker, S., Flynn, S., Larkin, J., Travers, R. et al. (2009). *Sexpress: The Toronto Teen Survey Report. What are diverse Toronto teens saying about HIV, sexual health and the services they want?* (Toronto: Planned Parenthood Toronto).

632. Flores, J., Hamel, C., Lavoie, F., & Rondeau, L. (2005). *Promoting Informed Action. Subject: Youth dating relationships.* (Centre québécois de ressources en promotion de la sécurité et en prévention de la criminalité).

633. Cornelius, T. L., Shorey, R. C., & Kunde, A. (2009). Legal consequences of dating violence: A critical review and directions for improved behavioral contingencies. *Aggression and Violent Behavior,* 14(3), 194-204.

634. Gouvernement du Québec. (2011-05-25). *Relations amoureuses des jeunes*. Retrieved on May 3, 2011, from http://www.santepub-mtl.qc.ca/relationsamoureuses/etat.html

635. Roots of Empathy. (2009). *Roots of Empathy – Report on Research 2009.*

636. Wolfe, D. A., Wekerle, C., Gough, R., Reitzel-Jaffe, D. et al. (1996). *Youth Relationships Project: A Violence Prevention Program for At-Risk Adolescents*. Retrieved on May 3, 2011, from http://www.eurowrc.org/05.education/education_en/yrp_youth_manual/02.abstract.html

637. Wolfe, D. A., Wekerle, C., Scott, K., Straatman, A.-L. et al. (2003). Dating violence prevention with at-risk youth: A controlled outcome evaluation. *Journal of Consulting and Clinical Psychology,* 72(2), 279-291.

638. The Fourth R. (n.d.). *Strategies for Healthy Youth Relationships*. Retrieved on July 25, 2011, from http://www.youthrelationships.org/

639. Johnson, H. (2007). Preventing Violence Against Women: Progress and Challenges. *IPC Review,* 1, 69-88.

640. McCall, D. & McKay, A. (2004). School-Based and School-Linked Sexual Health Education and Promotion in Canada. *Journal of Obstetrics and Gynaecologists of Canada,* 26(6), 596-600.

641. Public Health Agency of Canada. (n.d.). *The Fourth R: Skills for Youth Relationships*. Retrieved on June 23, 2011, from http://cbpp-pcpe.phac-aspc.gc.ca/intervention/617/view-eng.html

642. Wolfe, D. A., Crooks, C. V., Jaffe, P. G., Chiodo, D. et al. (2009). A School-Based Program to Prevent Adolescent Dating Violence: A Cluster Randomized Trial. *Archives of Pediatric and Adolescent Medicine,* 163(8), 692-699.

643. Crooks, C. V., Wolfe, D. A., Hughes, R., Jaffe, P. G. et al. (2008). Development, Evaluation and National Implementation of School-Based Program to Reduce Violence and Related Risk Behaviors: Lessons from the Fourth R. *IPC Review,* 2, 109-135.

644. Sex Information and Education Council of Canada. (2009). Sexual health education in the schools: Questions & answers (3rd edition). *The Canadian Journal of Human Sexuality,* 18(1-2), 47-60.

645. Botting, B., Rosato, M., & Wood, R. (1998). Teenage mothers and the health of their children. *Population Trends,* 93(Autumn), 19-28.

646. Planned Parenthood Toronto. (2010). *Sex Press: The Toronto Teen Survey Bulletin. What did Black, African, and Caribbean Teens have to say?*

647. Orgocka, A. (2004). Perceptions of communication and education about sexuality among Muslim immigrant girls in the US. *Sex Education,* 4(3), 255-271.

648. Ngo, H. V. (2009). Patchwork, Sidelining and Marginalization: Services for Immigrant Youth. *Journal of Immigrant and Refugee Studies,* 7(1), 82-100.

649. Frontline Partners with Youth Network. (2010-03-31). *The Toronto Teen Survey – What did LGBTQ and Questioning Youth Have To Say?* Retrieved on June 9, 2011, from http://www.fpyn.ca/content/resource/toronto-teen-survey-what-did-lgbtq-and-questioning-youth-have-say

650. Tolman, D. L. & McClelland, S. I. (2011). Normative Sexuality Development in Adolescence: A Decade Review, 2000-2009. *Journal of Research on Adolescence,* 21(1), 242-255.

651. Ryan, B. (2003). *A new look at Homophobia and Heterosexism in Canada.* (Ottawa: Canadian AIDS Society).

652. Ottawa Rape Crisis Centre. (2009). *Ottawa Rape Crisis Centre 2010/2011 Annual Report.* (Ottawa: Ottawa Rape Crisis Centre).

653. Ottawa Rape Crisis Centre. (n.d.). *Current Projects*. Retrieved on April 29, 2011, from http://orcc.net/programs/projects.html

654. Onyalo, S. (2010-11-04). *Girls Chat Program*. Retrieved on April 29, 2011, from http://www.unb.ca/fredericton/arts/centres/mmfc/_resources/pdfs/6onyalo.pdf

655. Wakley, G. (2011). Helping parents with sex education. *Journal of Family Health Care,* 21(2), 30-33.

656. Hansen, L., Mann, J., McMahon, S., & Wong, T. (2004). Sexual Health. *BMC Women's Health,* 4 (Suppl I)(S24).

References

657. Adler, N., Stewart, J., Cohen, S., Cullen, M. et al. (2007). *Reaching for a Healthier Life. Facts on Socioeconomic Status and Health in the US.* (San Francisco: The John D. and Catherine T. MacArthur Foundation Research Network on Socioeconomic Status and Health).
658. Public Health Agency of Canada. (2006). *HIV/AIDS Epi Updates, August 2006.* (Ottawa: Surveillance and Risk Assessment Division, Centre for Infectious Disease Prevention and Control, Public Health Agency of Canada).
659. Gil-Rivas, V. & Kooyman, L. (2006). Sexual Risk-Taking: Correlates and Prevention. In R. D. McAnulty & M. M. Burnette (Eds.), *Sex and sexuality*, (pp. 321-342). (Connecticut: Greenwood Publishing Group, Inc.).
660. Rapsey, C. & Murachver, T. (2006). Adolescent Sexuality. In R. D. McAnulty & M. M. Burnette (Eds.), *Sex and sexuality*, (pp. 61-102). (Connecticut: Greenwood Publishing Group, Inc.).
661. Public Health Agency of Canada. (2006). *Sexually Transmitted Infections in Canadian Street Youth. Findings from Enhanced Surveillance of Canadian Street Youth, 1999-2003.*
662. Public Health Agency of Canada. (2008-03-18). *Hepatitis C Virus Infection in Canadian Street Youth: The Role of Injection Drug Use.* Retrieved on July 25, 2011, from http://www.phac-aspc.gc.ca/sti-its-surv-epi/qf-fr/hep-c-eng.php
663. Moses, S., Mestery, K., Kaita, K. D. E., & Minuk, G. Y. (2002). Viral Hepatitis in a Canadian Street-involved Population. *Canadian Journal of Public Health*, 93(2), 123-128.
664. Huang, L., Gilbert, M. L., Rossi, M. F., Haase, D. et al. (2010). Trends in Vaccine-induced Immunity to Hepatitis B among Canadian Street-involved Youth. *Journal of Urban Health*, 87(2), 337-348.
665. Public Health Agency of Canada. (2007). 2004 Canadian Sexually Transmitted Infections Surveillance Report. *Canada Communicable Disease Report*, 33S1, 1-69.
666. Sales, J. M., Milhausen, R. R., & DiClemente, R. J. (2006). A decade in review: building on the experiences of past adolescent STI/HIV interventions to optimise future prevention efforts. *Sexual Transmitted Infections*, 82(6), 431-436.
667. Sales, J. M. & DiClemente, R. J. (2010). *Adolescent STI/HIV Prevention Programs: What Works for Teens?* (Ithaca: Act for Youth Center of Excellence).
668. Melnikow, J. & Alemagno, S. (1993). Adequacy of prenatal care among inner-city women. *Journal of Family Practice*, 37(6), 575-582.
669. Public Health Agency of Canada. (2007). *The Canada Prenatal Nutrition Program. A Decade of Promoting the Health of Mothers, Babies and Communities.* (Ottawa: Public Health Agency of Canada).
670. Public Health Agency of Canada. (2011-01-18). *Canada Prenatal Nutrition Program (CPNP)*. Retrieved on June 28, 2011, from http://www.phac-aspc.gc.ca/hp-ps/dca-dea/prog-ini/cpnp-pcnp/index-eng.php
671. Health Canada. (2008-10-17). *First Nations, Inuit and Aboriginal Health. Funded Health Programs and Services*. Retrieved on May 19, 2011, from http://www.hc-sc.gc.ca/fniah-spnia/finance/agree-accord/prog/index-eng.php#child_enf
672. Health Canada. (2007-07-07). *First Nations, Inuit and Aboriginal Health. First Nations and Inuit Health Program Compendium.* Retrieved on June 28, 2011, from http://www.hc-sc.gc.ca/fniah-spnia/pubs/aborig-autoch/2007_compendium/1_comm_prog-eng.php
673. Goodman, A. (2006). *The Story of David Olds and Nurse Home Visiting Program.* (Princeton: Robert Wood Johnson Foundation).
674. Assembly of First Nations. (n.d.). *Maternal child health program in First Nations communities*. Retrieved on May 3, 2011, from http://64.26.129.156/article.asp?id=2270
675. Wellings, K., Wadsworth, J., Johnson, A., Field, J. et al. (1999). Teenage fertility and life chances. *Reviews of Reproduction*, 4(3), 184-190.
676. Ravanera, Z. & Rajulton, F. (2006). Social Status Polarization in the Timing and Trajectories to Motherhood. *Canadian Studies in Population*, 33(2), 179-207.
677. Corcoran, J. (1998). Consequences of adolescent pregnancy/parenting: a review of the literature. *Social Work in Health Care*, 27(2), 49-67.
678. Kirby, D. (2007). *Emerging Answers 2007: Research Findings on Programs to Reduce Teen Pregnancy and Sexually Transmitted Diseases.* (The National Campaign to Prevent Teen and Unplanned Pregnancy).
679. Kalmuss.D., Davidson, A., Cohall, A., Laraque, D. et al. (2003). Preventing Sexual Risk Behaviors and Pregnancy Among Teenagers: Linking Research and Programs. *Perspectives on Sexual and Reproductive Health*, 35(2).

680. Maticka-Tyndale, E. (2008). Sexuality and sexual health of Canadian adolescents: Yesterday, today and tomorrow. *The Canadian Journal of Human Sexuality,* 17(3), 85-95.

681. Kohler, P. K., Manhart, L. E., & Lafferty, W. E. (2008). Abstinence-Only and Comprehensive Sex Education and the Initiation of Sexual Activity and Teen Pregnancy. *Journal of Adolescent Health*, 42(4), 344-351.

682. Bermúdez Parsai, M., González Castro, F., Marsiglia, F. F., Harthun, M. L. et al. (2011). Using Community Based Participatory Research to Create a Culturally Grounded Intervention to Prevent Risky Behaviors. *Prevention Science,* 12(1), 34-47.

683. UNAIDS. (1997). *Impact of HIV and sexual health education on the sexual behaviour of young people: a review update.* (Geneva: Joint United Nations Programme on HIV/AIDS).

684. Best Start & Sex Information and Education Council of Canada. (2007). *Update Report on Teen Pregnancy Prevention. A summary of statistics, context and effective strategies related to the prevention of teen pregnancy, including examples of successful or promising initiatives.* (Toronto: Best Start: Ontario's Maternal, Newborn and Early Childhood Development Resource Centre).

685. Jewell, D., Tacchi, J., & Donovan, J. (2000). Teenage pregnancy: whose problem is it? *Family Practice,* 17(6), 522-528.

686. Best Start & Sex Information and Education Council of Canada. (2008). *Teen Pregnancy Prevention: Exploring Out-of-school Approaches.* (Toronto: Best Start: Ontario's Maternal, Newborn and Early Childhood Development Resource Centre).

687. Benzies, K., Tough, S., Tofflemire, K., Frick, C. et al. (2006). Factors Influencing Women's Decisions About Timing of Motherhood. *Journal of Obstetrics, Gynecologic, & Neonatal Nursing,* 35(5), 625-633.

688. Seamark, C. J. & Lings, P. (2004). Positive experiences of teenage motherhood: a qualitative study. *The British Journal of General Practice,* 54(508), 813-818.

689. Public Health Agency of Canada. (2005-04-05). *Notifiable Diseases On-Line*. Retrieved on February 22, 2011, from http://dsol-smed.phac-aspc.gc.ca/dsol-smed/ndis/list-eng.php

690. Pan American Health Organization & World Health Organization. (2000). Promotion of Sexual Health, Recommendations for Actions. *Proceedings of a Regional Consultation convened by Pan American Health Organization and World Health Organization in collaboration with the World Association for Sexology*, Pan American Health Organization and World Health Organization, Antigua Guatemala, GU.

691. Public Health Agency of Canada. (2005-04-22). *Fact Sheet. National Immunization Strategy (NIS) for Canada*. Retrieved on February 22, 2011, from http://www.phac-aspc.gc.ca/media/nr-rp/2005/2005_14bk1-eng.php

692. Advisory Committee on Population Health and Health Security. (2003). *National Immunization Strategy: Final Report 2003.*

693. Public Health Agency of Canada. (2006). *Canadian Immunization Guide*. Seventh Edition.

694. Ontario Ministry of Health and Long-Term Care. (2009). *Initial Report on Public Health.*

695. Government of Alberta Health and Wellness. (n.d.). *Human Papillomavirus (HPV) vaccine*. Retrieved on February 24, 2011, from http://www.health.alberta.ca/health-info/imm-HPV.html

696. Public Health Agency of Canada. (2007-09-25). *Populations at Risk*. Retrieved on June 30, 2011, from http://www.phac-aspc.gc.ca/aids-sida/populations-eng.php

697. Public Health Agency of Canada. (2005-01-13). *Information: State of the HIV/AIDS Pandemic*. Retrieved on February 24, 2011, from http://www.phac-aspc.gc.ca/media/nr-rp/2005/2005_1bk2-eng.php

698. Health Canada. (2007-11-29). *Health Concerns. Federal Initiative to Address HIV/AIDS in Canada*. Retrieved on February 24, 2011, from http://www.hc-sc.gc.ca/hc-ps/dc-ma/int_aids-sida_fed-eng.php

699. Veugelers, P. J. & Fitzgerald, A. L. (2005). Prevalence of and risk factors for childhood overweight and obesity. *Canadian Medical Association Journal,* 173(6), 607-613.

700. Clèment, K. & Ferré, P. (2003). Genetics and Pathophysiology of Obesity. *Pediatric Research*, 53(5), 721-725.

701. Health Canada. (2011-06-17). *First Nations, Inuit and Aboriginal Health. Diabetes*. Retrieved on May 2, 2011, from http://www.hc-sc.gc.ca/fniah-spnia/diseases-maladies/diabete/index-eng.php#a8

References

702. Government of Canada. (2010). *Improving Cooking and Food Preparation Skills: A Synthesis of the Evidence to Inform Program and Policy Development.* (Ottawa: Government of Canada).

703. Government of Canada. (2010). *Improving Cooking and Food Preparation Skills: A profile of Promising Practices in Canada and Abroad.* (Ottawa: Government of Canada).

704. McIntyre, L. & Tarasuk, V. (n.d.). *Food Security as a Determinant of Health*. Retrieved on April 21, 2011, from http://www.phac-aspc.gc.ca/ph-sp/oi-ar/pdf/08_food_e.pdf

705. Nutrition North Canada. (2011-03-14). *About the Program*. Retrieved on June 8, 2011, from http://www.nutritionnorthcanada.gc.ca/abt/index-eng.asp

706. Health Canada. (1996). *Nutrition for Health: An Agenda for Action.*

707. Harris, J. L., Bargh, J. A., & Brownell, K. D. (2009). Priming Effects of Television Food Advertising on Eating Behavior. *Health Psychology,* 28(4), 404-413.

708. Gouvernement du Québec: *L.R.Q., Chapitre P-40.1; Loi sur la protection du consommateur (Québec)*, 2011.

709. Canadian Association of Broadcasters & Advertising Standards Canada. (n.d.). *Broadcast Code for Advertising to Children*. Retrieved on April 21, 2011, from http://www.adstandards.com/en/clearance/childrens/broadcastCodeForAdvertisingToChildren.aspx

710. Story, M. & French, S. (2004). Food Advertising and Marketing Directed at Children and Adolescents in the US. *International Journal of Behavioral Nutrition and Physical Activity,* 1(3).

711. Boutin, D. (2011-02). *Youth-targeted junk-food ads: Do stricter laws mean leaner kids?* Retrieved on May 30, 2011, from http://www.uottawa.ca/articles/youth-targeted-junk-food-ads-do-stricter-laws-mean-leaner-kids

712. Katamay, S. W., Esslinger, K. A., Vigneault, M., Johnston, J. L. et al. (2007). Eating Well with Canada's Food Guide (2007): Development of the Food Intake Pattern. *Nutrition Reviews,* 65(4), 155-166.

713. Health Canada. (2007-02-05). *Food and Nutrition. Canada's Food Guide: Maintaining Healthy Habits*. Retrieved on February 24, 2011, from http://www.hc-sc.gc.ca/fn-an/food-guide-aliment/maintain-adopt/index-eng.php

714. Health Canada. (2011-02-24). *Food and Nutrition. Eat Well and Be Active Educational Toolkit*. Retrieved on June 2, 2011, from http://www.hc-sc.gc.ca/fn-an/food-guide-aliment/educ-comm/toolkit-trousse/index-eng.php

715. Health Canada. (2010-10-21). *About Health Canada. Nutrition Facts Education Campaign*. Retrieved on June 2, 2011, from http://www.hc-sc.gc.ca/ahc-asc/media/nr-cp/_2010/2010_180b-eng.php

716. Public Health Agency of Canada. (2007-12-17). *The Role of the Public Health Agency of Canada*. Retrieved on July 12, 2011, from http://www.phac-aspc.gc.ca/alw-vat/role/index-eng.php

717. Public Health Agency of Canada. (2010-09-09). *Healthy Living Unit*. Retrieved on February 22, 2011, from http://www.phac-aspc.gc.ca/hp-ps/hl-mvs/hlu-umvs/index-eng.php

718. Public Health Agency of Canada. (2010-09-07). *Creating a Healthier Canada: Making Prevention a Priority*. Retrieved on July 12, 2011, from http://www.phac-aspc.gc.ca/hp-ps/hl-mvs/declaration/index-eng.php

719. Public Health Agency of Canada. (2011-01-20). *Physical Activity Guidelines*. Retrieved on February 22, 2011, from http://www.phac-aspc.gc.ca/hp-ps/hl-mvs/pa-ap/03paap-eng.php

720. Public Health Agency of Canada. (2011-01-24). *Government of Canada supports new physical activity guidelines*. Retrieved on February 22, 2011, from http://www.phac-aspc.gc.ca/media/nr-rp/2011/2011_0124-eng.php

721. Canadian Heritage. (2009-02-25). *Sport Participation Development Projects (SPDP)*. Retrieved on April 19, 2011, from http://www.pch.gc.ca/pgm/sc/init/psdps-spdp-eng.cfm

722. Canadian Heritage. (2011-03-02). *Sport Canada Contributions Report: 2009-2010*. Retrieved on May 2, 2011, from http://www.pch.gc.ca/pgm/sc/cntrbtn/2009-2010/index-eng.cfm

723. Canadian Tire Jumpstart Charities. (n.d.). *Jumpstart*. Retrieved on May 2, 2011, from http://www.canadiantire.ca/jumpstart/what-is-jumpstart.html

724. Spence, J. C., Holt, N. L., Dutove, J. K., & Carson, V. (2010). Uptake and effectiveness of the Children's Fitness Tax Credit in Canada: the rich get richer. *BMC Public Health*, 10(356).

725. The Standing Committee on Health. (2007). *Healthy Weights for Healthy Kids.* (Ottawa: Parliamentary Information and Research Service).

726. Myers, A. & Rosen, J. C. (1999). Obesity stigmatization and coping: Relation to mental health symptoms, body image, and self-esteem. *International Journal of Obesity*, 23(3), 221-230.

727. Puhl, R. M. & Brownell, K. D. (2006). Confronting and Coping with Weight Stigma: An Investigation of Overweight and Obese Adults. *Obesity*, 14(10), 1802-1815.

728. US Department of Health and Human Services. (2005). *Body Wise Handbook: Eating Disorder Information for Middle School Personnel.* (Washington: US Department of Health and Human Services).

729. Health at Every Size. (n.d.). *Health at Every Size*. Retrieved on April 20, 2011, from http://www.haescommunity.org/

730. Association for Size Diversity and Health. (2011). *Basic Principles of Health At Every Size*. Retrieved on July 26, 2011, from http://www.sizediversityandhealth.org/content.asp?id=131

731. Bacon, L. & Aphramor, L. (2011). Weight Science: Evaluating the Evidence for a Paradigm Shift. *Nutrition Journal*, 10(9), 1-13.

732. Bacon, L. (2010). *Health at Every Size*. (Dallas: BenBella Books Inc.).

733. Public Health Agency of Canada. (n.d.). *Our Health Our Future: A National Dialogue on Healthy Weights. Topic: Creating Supportive Environments. Shift the focus away from weight*. Retrieved on April 20, 2011, from http://ourhealthourfuture.gc.ca/2011/04/06/shift-the-focus-away-from-weight/

734. Association for Size Diversity and Health. (2011). *HAES in Action!* Retrieved on July 26, 2011, from http://www.sizediversityandhealth.org/content.asp?id=22

735. MacKay, K. C. (n.d.). *Optimizing Investments in the Built Environment to Reduce Youth Obesity: A Study of Decisionmakers in Atlantic Canada.*

736. Public Health Agency of Canada. (2010). *The 2008 Report on the Integrated Pan-Canadian Healthy Living Strategy.* (Ottawa: Public Health Agency of Canada).

737. Public Health Agency of Canada. (2010-02-09). *Physical Activity: What is Active Transportation?* Retrieved on July 12, 2011, from http://www.phac-aspc.gc.ca/hp-ps/hl-mvs/pa-ap/at-ta-eng.php

738. Infrastructure Canada. (2007-11-06). *Information Sheet – The Government of Canada is Taking Action on a Stronger Economy, a Cleaner Environment and more Prosperous Communities*. Retrieved on April 19, 2011, from http://www.buildingcanada-chantierscanada.gc.ca/plandocs/bg-di/bg-di-fs-fr-eng.html

739. Public Health Agency of Canada. (2004-10-05). *Information: Healthy Living and Risk Taking Behaviors*. Retrieved on February 24, 2011, from http://www.phac-aspc.gc.ca/media/nr-rp/2004/2004_53bk2-eng.php

740. Littleton, H. L. & Ollendick, T. (2003). Negative Body Image and Disordered Eating Behavior in Children and Adolescents: What Places Youth at risk and How Can These Problems Be Prevented? *Clinical Child and Family Psychology Review*, 6(1).

741. McVey, G., Tweed, S., & Blackmore, E. (2007). Healthy School – Healthy Kids: A controlled evaluation of a comprehensive universal eating disorder prevention program. *Body Image*, 4, 115-136.

742. Polivy, J. & Herman, C. P. (2002). Causes of Eating Disorders. *Annual Review of Psychology*, 53, 187-213.

743. Silva, M. A. (2006-04). *Body Image Dissatisfaction: A Growing Concern Among Men*. Retrieved on April 20, 2011, from http://www.msoe.edu/life_at_msoe/current_student_resources/student_resources/counseling_services/newsletters_for_mental_health/body_image_dissatisfaction.shtml

744. Westwind eating disorder recovery centre. (n.d.). *Eating Disorders in Men*. Retrieved on June 1, 2011, from http://www.westwind.mb.ca/Eating%20disorders/Men/Men.html

745. Gregor, S. (2004-06). The man behind the mask: male body image dissatisfaction. *The Australian Psychological Society*.

746. Eating Disorders Venture. (2006). *Manorexia and Bigorexia*. Retrieved on April 20, 2011, from http://www.eatingdisordershelpguide.com/manorexia.html

747. The National Eating Disorder Information Centre (NEDIC). (n.d.). *Food and Weight Preoccupation*. Retrieved on May 30, 2011, from http://www.nedic.ca/knowthefacts/foodweight.shtml

748. Quigg, S. L. & Want, S. C. (2011). Highlighting media modifications: Can a television commercial mitigate the effects of music videos on female appearance satisfaction? *Body Image*, 8(2), 135-142.

749. Levine, M. P. & Murnen, S. K. (2009). "Everybody knows that mass media are/are not [*pick one*] a cause of eating disorders": A critical review of evidence for a causal link between media, negative body image, and disordered eating in females. *Journal of Social and Clinical Psychology*, 28(1), 9-42.

750. Ferguson, C. J., Winegard, B. M., & Winegard, B. (2011). Who is the fairest one of all? How evolution guides peer and media influences on female body dissatisfaction. *Review of General Psychology*, 15(1), 11-28.

751. National Eating Disorder Information Centre. (n.d.). *Prevention and Health Promotion*. Retrieved on November 24, 2010, from http://www.nedic.ca/knowthefacts/preventionhealth.shtml

752. Lawler, M. & Nixon, E. (2010). Body Dissatisfaction Among Adolescent Boys and Girls: The Effects of Body Mass, Peer Appearance Culture and Internalization of Appearance Ideals. *Journal of Youth and Adolescence*, 40(1), 59-71.

753. Ata, R. N., Bryant Ludden, A., & Lally, M. M. (2007). The Effects of Gender and Family, Friend, and Media Influences on Eating Behaviors and Body Image During Adolescence. *Journal of Youth and Adolescence*, 36(8), 1024-1037.

754. Al Sabbah, H., Vereecken, C. A., Elgar, F. J., Nansel, T. et al. (2009). Body weight dissatisfaction and communication with parents among adolescents in 24 countries: international cross-sectional survey. *BMC Public Health*, 9(52).

755. McVey, G., Gusella, J., Tweed, S., & Ferrari, M. (2009). A Controlled Evaluation of Web-Based Training for Teachers and Public Health Practitioners on the Prevention of Eating Disorders. *Eating Disorders*, 17, 1-26.

756. Canadian Mental Health Association. (n.d.). *Eating Disorders*. Retrieved on November 24, 2010, from http://www.cmha.ca/bins/content_page.asp?cid=3-98&lang=1

757. KidsHealth from Nemours. (n.d.). *Eating Disorders*. Retrieved on February 24, 2011, from http://kidshealth.org/parent/emotions/feelings/eating_disorders.html

758. Che, J. (2002). Underweight Canadians. *Canadian Social Trends*, Winter 2002(67), 6-11.

759. National Institute of Mental Health. (2010-08-24). *Eating Disorders*. Retrieved on November 24, 2010, from http://www.nimh.nih.gov/health/publications/eating-disorders/complete-index.shtml

760. Health Canada. (2010-09-27). *Table 1. Smoking status and average number of cigarettes smoked per day, by age group and sex, age 15+ years, Canada 2009* [Data File]. Retrieved on June 30, 2011, from http://www.hc-sc.gc.ca/hc-ps/tobac-tabac/research-recherche/stat/_ctums-esutc_2009/ann-eng.php

761. Health Canada. (2007-12-12). *Table 2. Smoking status and average number of cigarettes smoked per day by age group and sex for Canadians age 15 and over, Canadian Tobacco Use Monitoring Survey (February-December), Canada 1999* [Data File]. Retrieved on November 23, 2010, from http://www.hc-sc.gc.ca/hc-ps/tobac-tabac/research-recherche/stat/_ctums-esutc_1999/ann_tab2-eng.php

762. Health Canada. (2010-06-30). *Table 1: Main 2009 CADUMS indicators by sex and by age -Drugs* [Data File]. Retrieved on February 23, 2011, from http://www.hc-sc.gc.ca/hc-ps/drugs-drogues/stat/_2009/tables-tableaux-eng.php

763. Centre for Addiction and Mental Health. (2008-04-09). *Educating Students About Drug Use and Mental Health – Risk and Protective Factors: Youth and Substance Abuse*. Retrieved on May 3, 2011, from http://www.camh.net/education/Resources_teachers_schools/Drug_Curriculum/Secondary/curriculum_riskprotect.html

764. Government of Canada. (11-15-2010). *National Anti-Drug Strategy Overview: Taking Action Against Illicit Drugs to Contain the Growth in Supply and Demand* [Brochure]. (The National Anti-Drug Strategy).

765. Canadian Nurses Association. (2011). *Harm Reduction and Currently Illegal Drugs: Implications for Nursing Policy, Practice, Education and Research*. (Ottawa: Canadian Nurses Association).

766. Canadian Paediatric Society Adolescent Health Committee. (2008). Harm Reduction: An Approach to Reducing the Risk of Adolescent Health Behaviors. *Paediatrics and Child Health*, 13(1), 53-56.

767. Poulin, C. (2006). *Harm Reduction Policies and Programs for Youth.* (Ottawa: Canadian Centre on Substance Abuse).

768. World Health Organization. (n.d.). *Harm reduction among injecting drug users.* Retrieved on July 22, 2011, from http://www.wpro.who.int/health_topics/harm_reduction/

769. Cheung, Y. W. (2000). Substance Abuse and Developments in Harm Reduction. *Canadian Medical Association Journal,* 162(12), 1697-1700.

770. International Harm Reduction Association. (2010). *What is Harm Reduction? A position statement from the International Harm Reduction Association* [Brochure]. (London: International Harm Reduction Association).

771. UNAIDS. (2005). *Intensifying HIV Prevention – UNAIDS Policy Position Paper.* (Geneva: Policy Paper Endorsed by the Joint United Nation Programme on HIV/AIDS (UNAIDS) Programme Coordinating Board).

772. United Nations Office on Drugs and Crime. (2004). *HIV Prevention Among Young Injecting Drug Users.* (New York: United Nations).

773. United Nations Children's Fund (UNICEF). (2011). *Opportunity in Crisis: Preventing HIV from early adolescence to young adulthood.* (New York: United Nations Children's Fund).

774. Public Health Agency of Canada. (2008-07-17). *An Agency Approach to Harm Reduction (July 17, 2008).*

775. Rehm, J., Baliunas, D., Brochu, S., Fischer, B. et al. (2006). *The Costs of Substance Abuse in Canada, 2002. Highlights.* (Ottawa: Canadian Centre on Substance Abuse).

776. Gossop, M., Marsden, J., & Stewart, D. (2001). *NTORS: After Five Years, The National Treatment Outcome Research Study. Changes in substance use, health and criminal behaviour during the five years after intake.* (London: National Addiction Centre).

777. Government of Canada. (2010-11-15). *The National Anti-Drug Strategy.* Retrieved on March 8, 2011, from http://www.nationalantidrugstrategy.gc.ca/nads-sna.html

778. Department of Justice. (2010-08-06). *Supplementary Information (Tables) – Table 4: Horizontal Initiatives.* Retrieved on July 14, 2011, from http://www.justice.gc.ca/eng/dept-min/pub/dpr-rr/2009/section3/hi-ih.html

779. National Anti-Drug Strategy. (2010-11-15). *Prevention.* Retrieved on July 22, 2011, from http://www.nationalantidrugstrategy.gc.ca/prevention.html

780. National Anti-Drug Strategy. (2010-11-15). *Treatment.* Retrieved on July 22, 2011, from http://www.nationalantidrugstrategy.gc.ca/treat-trait.html

781. Government of Canada. (2011-01-07). *Enforcement.* Retrieved on July 12, 2011, from http://www.nationalantidrugstrategy.gc.ca/enf-app.html

782. Health Canada. (2011-07-06). *National Anti-Drug Strategy. Youth Mass Media 2010-11 Campaign Results (June 30, 2011).*

783. Health Canada. (2010-01-18). *Health Concerns. The Drug Strategy Community Initiatives Fund (DSCIF) – At a Glance.* Retrieved on July 14, 2011, from http://www.hc-sc.gc.ca/hc-ps/drugs-drogues/dscif-ficsa/index-eng.php

784. Health Canada. (2006-03-06). *First Nations, Inuit and Aboriginal Health. National Native Alcohol and Drug Abuse Program.* Retrieved on May 19, 2011, from http://www.hc-sc.gc.ca/fniah-spnia/substan/ads/nnadap-pnlaada-eng.php

785. Health Canada. (2011-05-24). *Health Concerns. Drug Treatment Funding Program (DTFP).* Retrieved on July 14, 2011, from http://www.hc-sc.gc.ca/hc-ps/drugs-drogues/dtfp-pftt/index-eng.php

786. Public Health Agency of Canada. (2008-07-18). PHAC position on Harm Reduction.

787. City of Vancouver. (n.d.). *City of Vancouver – Four Pillars Drug Strategy.* Retrieved on March 8, 2011, from http://vancouver.ca/fourpillars/index.htm

788. Marshall, B. D. L., Milloy, M.-J., Wood, E., Montaner, J. S. G. et al. (2011). Reduction in overdose mortality after the opening of North America's first medically supervised safer injecting facility: a retrospective population-based study. *The Lancet,* 377, 1429-1437.

789. Centre for Addiction and Mental Health. (1999). *Alcohol and Drug Prevention Programs for Youth: What Works?*

790. National Drug Research Institute. (2011-02-20). *SHAHRP: School Health and Alcohol Harm Reduction Project.* Retrieved on June 29, 2011, from http://ndri.curtin.edu.au/research/shahrp/index.cfm

References

791. McBride, N., Farringdon, F., Midford, R., Meuleners, L. et al. (2004). Harm minimization in school drug education: final results of the School Health and Alcohol Harm Reduction Project (SHAHRP). *Addiction*, 99(3), 278-291.

792. McBride, N. T., Farringdon, F. H., & Kennedy, C. A. (2007). Research to practice – formal dissemination of the School Health and Alcohol Harm Reduction Project (SHAHRP) in Australia. *Drug and Alcohol Review*, 26, 665-672.

793. Pernanen, K., Cousineau, M.-M., Brochu, S., & Sun, F. (2002). *Proportions of crimes associated with alcohol and other drugs in Canada.* (Ottawa: Canadian Centre on Substance Abuse).

794. Mohler-Kuo, M., Dowdall, G. W., Koss, M. P., & Wechsler, H. (2004). Correlates of Rape while Intoxicated in a National Sample of College Women. *Journal of Studies on Alcohol*, 65, 37-45.

795. World Health Organization. (2005). *Alcohol policy in the WHO European Region: current status and the way forward.* (Copenhagen: World Health Organization).

796. World Health Organization. (2010). *Global strategy to reduce harmful use of alcohol.* (Italy: World Health Organization).

797. Heipel-Fortin, R. B. & Rempel, B. (2007). Effectiveness of Alcohol Advertising Control Policies and Implications for Public Health Practice. *McMaster University Medical Journal*, 4(1), 20-26.

798. Canadian Public Health Association. (n.d.). *12 Great Achievements. Overview: Healthier mothers and babies*. Retrieved on February 9, 2011, from http://cpha100.ca/12-great-achievements/overview-healthier-mothers-and-babies

799. Burgoyne, A. (2010). *What We Have Learned: Key Canadian FASD Awareness Campaigns.* (Ottawa: Public Health Agency of Canada).

800. Poole, N. A. (2008). *Fetal Alcohol Spectrum Disorder (FASD) Prevention: Canadian Perspectives.* (Ottawa: Public Health Agency of Canada).

801. Herzig, K., Danley, D., Jackson, R., Petersen, R. et al. (2006). Seizing the 9-month moment: Addressing behavioral risks in prenatal patients. *Patient Education and Counseling*, 61(2), 228-235.

802. Best Start. (2002). *Reducing the Impact: working with pregnant women who live in difficult life situations.* (Toronto: Best Start: Ontario's Maternal, Newborn and Early Child Development Resource Centre).

803. Environics Research Group Limited. (2006). *Alcohol Use During Pregnancy and Awareness of Fetal Alcohol Syndrome and Fetal Alcohol Spectrum Disorder. Results of a National Survey.*

804. Public Health Agency of Canada. (2005). *Fetal Alcohol Spectrum Disorder (FASD): A Framework for Action.* (Ottawa: Public Health Agency of Canada).

805. Public Health Agency of Canada. (2010-06-14). *Summative Evaluation of the Canada Prenatal Nutrition Program 2004-2009*. Retrieved on June 28, 2011, from http://www.phac-aspc.gc.ca/about_apropos/evaluation/reports-rapports/2009-2010/cpnp-pcnp/kf-cc-eng.php#a7

806. Greaves, L., Cormier, R., Devries, K., Bottorff, J. et al. (2003). *Expecting to Quit: A Best Practices Review of Smoking Cessation Interventions for Pregnant and Postpartum Girls and Women.* (Vancouver: British Columbia Centre of Excellence for Women's Health).

807. Haslam, C. (2000). A targeted approach to reducing maternal smoking. *British Journal of General Practice*, 50(457), 661-663.

808. Poole, N. & Isaac, B. (2001). *Apprehensions. Barriers to Treatment for Substance-Using Mothers.* (Vancouver: British Columbia Centre of Excellence for Women's Health).

809. Armstrong, M. A., Osejo, V. G., Lieberman, L., Carpenter, D. M. et al. (2003). Perinatal Substance Abuse Intervention Obstetric Clinics Decreases Adverse Neonatal Outcomes. *Journal of Perinatology*, 23(1), 3-9.

810. Government of Manitoba. (n.d.). *Stop FASD*. Retrieved on November 25, 2010, from http://www.gov.mb.ca/healthychild/fasd/stopfasd.html

811. Government of Manitoba. (2008). *Stop FAS*. (Winnipeg: Healthy Child Manitoba).

812. Umlah, C. & Grant, T. (2003). Intervening to prevent prenatal alcohol and drug exposure: the Manitoba experience in replicating a paraprofessional model. *Envision: The Manitoba Journal of Child Welfare*, 2(1), 1-12.

813. Crowe-Salazar, N. (2009). *Substance Use during Pregnancy and a Women Centered Harm Reduction Approach: challenging the mother and baby divide to support family well-being and the prevention of child maltreatment.*

814. Public Health Agency of Canada. (2004-03-11). *Canadian Perinatal Surveillance System*. Retrieved on June 28, 2011, from http://www.phac-aspc.gc.ca/rhs-ssg/overview-apercu-eng.php

815. Public Health Agency of Canada. (2010-01-04). *The Canadian Maternity Experiences Survey*. Retrieved on June 28, 2011, from http://www.phac-aspc.gc.ca/rhs-ssg/survey-eng.php

816. Health Canada. (2007-12-12). *Canadian Tobacco Use Monitoring Survey (CTUMS) 1999 – Table 2. Smoking status and average number of cigarettes smoked per day, by age group and sex for Canadians age 15 years and over, Canadian Tobacco Use Monitoring Survey (February-December), Canada 1999* [Data File]. Retrieved on April 29, 2011, from http://www.hc-sc.gc.ca/hc-ps/tobac-tabac/research-recherche/stat/_ctums-esutc_1999/ann_tab2-eng.php

817. Partnership to Assist with Cessation of Tobacco. (2010-09-19). *Make a PACT*. Retrieved on June 8, 2011, from http://www.makeapact.ca/content/make-a-pact

818. Health Canada. (2010-04-30). *Health Concerns. Evaluation of Retailers' Behaviour Towards Certain Youth Access-to-Tobacco Restrictions – 2009*. Retrieved on October 22, 2010, from http://www.hc-sc.gc.ca/hc-ps/tobac-tabac/research-recherche/eval/2009_result-eng.php

819. Physicians for a Smoke-Free Canada. (2007). *Towards effective tobacco control in First Nations and Inuit communities.* (Ottawa: Physicians for a Smoke-Free Canada).

820. Health Canada. (2010-11-29). *Health Concerns. Municipal/Local*. Retrieved on June 27, 2011, from http://www.hc-sc.gc.ca/hc-ps/tobac-tabac/about-apropos/role/municip/index-eng.php

821. Health Canada. (2008). *Smokefree Public Places: You Can Get There.* (Ottawa: Health Canada).

822. Ontario Ministry of Health Promotion and Sport. (2007-05). *Smoke-Free Ontario Act. How the Act Affects: Enclosed Public Places*. Retrieved on January 6, 2011, from http://www.mhp.gov.on.ca/en/smoke-free/factsheets/enclosed_public_places.asp

823. Health Canada. (2010-01-21). *About Health Canada. Government of Canada Announces Project that Engages Youth in Tobacco Control Initiatives*. Retrieved on October 22, 2010, from http://www.hc-sc.gc.ca/ahc-asc/media/nr-cp/_2010/2010_13-eng.php

824. Health Canada. (2010-07-05). *About Health Canada. Government of Canada Ban on Flavoured Tobacco Products in Full Force*. Retrieved on June 22, 2011, from http://www.hc-sc.gc.ca/ahc-asc/media/nr-cp/_2010/2010_112-eng.php

825. Government of Canada: *Cracking Down on Tobacco Marketing Aimed at Youth Act*, S.C. c. 27, 2009.

826. Prime Minister of Canada. (2009-10-26). *Cracking Down on Tobacco Marketing Aimed at Youth Act*. Retrieved on June 10, 2011, from http://pm.gc.ca/eng/media.asp?id=2915

827. Public Health Agency of Canada. (2009). *Investing in prevention – The economic perspective. Key findings from a survey of recent evidence.* (Ottawa: Public Health Agency of Canada).

828. Ling, P. M. & Glantz, S. A. (2004). Tobacco Industry Research on Smoking Cessation: Recapturing Young Adults and Other Recent Quitters. *Journal of General Internal Medicine*, 19(5 Pt 1), 419-426.

829. Grimshaw, G. & Stanton, A. (2006). Tobacco cessation interventions for young people (Review). *Cochrane Database of Systematic Reviews*,(4).

830. Organisation for Economic Co-operation and Development. (2010). *OECD Health Data 2010* [Data File]. Retrieved on January 14, 2011, from http://www.ecosante.fr/index2.php?base=OCDE&langh=ENG&langs=ENG&sessionid=

831. Boivin, J. F., Roy, É., Haley, N., & Galbaud du Fort, G. (2005). The Health of Street Youth: A Canadian Perspective. *Canadian Journal of Public Health*, 96(6), 432-437.

832. Canadian Institute of Child Health. (2000). *The Health of Canada's Children: A CICH Profile. 3rd Edition.* (Ottawa: Canadian Institute of Child Health).

833. Mitura, V. & Bollman, R. (2004). Health status and behaviours of Canada's youth: A rural-urban comparison. *Rural and Small Town Canada Analysis Bulletin*, 5(3), 1-22.

834. Hackshaw, A. (2008). Small studies: strengths and limitations. *European Respiratory Journal*, 32(5), 1141-1143.

835. Centers for Disease Control and Prevention. (2001). Updated Guidelines for Evaluating Public Health Surveillance Systems: Recommendations from the Guidelines Working Group. *Morbidity and Mortality Weekly Report*, 50(RR-13).

836. Health Behaviour in School-aged Children. (n.d.). *Overview*. Retrieved on January 20, 2011, from http://www.hbsc.org/overview.html

References

837. Statistics Canada. (2011-06-24). *Youth in Transition Survey (YITS)*. Retrieved on June 29, 2011, from http://www.statcan.gc.ca/cgi-bin/imdb/p2SV.pl?Function=getSurvey&SDDS=4435&lang=en&db=imdb&adm=8&dis=2

838. Statistics Canada. (2011-06-09). *Canadian Community Health Survey – Annual Component (CCHS)*. Retrieved on June 29, 2011, from http://www.statcan.gc.ca/cgi-bin/imdb/p2SV.pl?Function=getSurvey&SDDS=3226&lang=en&db=imdb&adm=8&dis=2

839. Health Canada. (2008-08-22). *Health Concerns. Canadian Alcohol and Drug Use Monitoring Survey (CADUMS)*. Retrieved on June 2, 2011, from http://www.hc-sc.gc.ca/hc-ps/drugs-drogues/cadums-esccad-eng.php

840. Statistics Canada. (2010-11-10). *National Longitudinal Survey of Children and Youth (NLSCY)*. Retrieved on March 10, 2011, from http://www.statcan.gc.ca/cgi-bin/imdb/p2SV.pl?Function=getSurvey&SDDS=4450&lang=en&db=imdb&adm=8&dis=2

841. Statistics Canada. (1999). *National Population Health Survey. General Information and Products and Services*. Retrieved on June 2, 2011, from http://www.statcan.gc.ca/pub/82f0068x/4198604-eng.pdf

842. Statistics Canada. (2010-05-14). *National Population Health Survey – Household Component – Longitudinal (NPHS)*. Retrieved on June 29, 2011, from http://www.statcan.gc.ca/cgi-bin/imdb/p2SV.pl?Function=getSurvey&SDDS=3225&lang=en&db=imdb&adm=8&dis=2

843. Patry, M. (2010). Design and analysis of health-related surveys in a federal country. *Proceedings of the BAPH Workshop 2010: Design and analysis of health-related surveys in a federal country*, University of Hasselt and University of Liège, Brussels, BE.

844. Kirmayer, L. J., Gill, K., Fletcher, C., Ternar, Y. et al. (1994). *Emerging Trends in Research on Mental Health Among Canadian Aboriginal Peoples. A Report Prepared for the Royal Commission on Aboriginal Peoples.* (Montreal: McGill University – Culture & Mental Health Research Unit).

845. Podmostko, M. B. (2009). *An Exploratory Study of the Factors Influencing the Relationship between Program Evaluators and Their Youth Grantee Clients.* (The Graduate School of Education and Human Development of The George Washington University).

846. Public Health Agency of Canada. (2010). *Youth and Technology: Improving the Health of our Future Generations. 2010 Event on Promoting the Health of Youth in Canada.* (Ottawa: Public Health Agency of Canada).

847. TakingITGlobal, Ekehaug, V., Partington, P. J., & Yeo, N. (2008). *TakingITGlobal E-consultations on Climate Change & Building Citizen Centred Policies & Services.*

848. Crooks, C. V., Chiodo, D., Thomas, D., & Hughes, R. (2010). Strengths-based Programming for First Nations Youth in Schools: Building Engagement Through Healthy Relationships and Leadership Skills. *International Journal of Mental Health and Addiction*, 8(2), 160-173.

849. Health Canada. (2010-02-07). *Health Concerns. Help Prevent Drug Use by Your Teen – Tips on Developing Their Resiliency*. Retrieved on February 1, 2011, from http://www.hc-sc.gc.ca/hc-ps/pubs/adp-apd/prevent-eviter/index-eng.php

850. National Collaborating Centre for Aboriginal Health. (2010). *Social Determinants of Health: Culture and Language as Social Determinants of First Nations, Inuit and Métis Health.* (National Collaborating Centre for Aboriginal Health).

851. Reading, J. (Personal Communications on Creating Healthy Transitions and Moving Forward from Words to Action for Aboriginal Adolescents and Young Adults, April 6th, 2011).

852. The Centre of Excellence for Youth Engagement. (n.d.). *Youth Engagement*. Retrieved on February 10, 2011, from http://www.engagementcentre.ca/vision.php

853. Centres of Excellence for Children's Well-Being. (n.d.). *What is Youth Engagement?*

854. CBC News. (2007-06-29). *Timeline of Canadian Tobacco Laws*. Retrieved on November 25, 2010, from http://www.cbc.ca/news/background/smoking/timeline.html

855. Gervais, A., O'Loughlin, J., Dugas, E., Eisenberg, M. J. et al. (2007). A Systematic Review of Randomized Controlled Trials of Youth Smoking Cessation Interventions. *Drogues, santé et société*, 6(1).

856. Coalition for a Smoke-free Nova Scotia. (n.d.). *Pricing and Taxation. Increases in taxes on tobacco across Canada, provincial rankings*. Retrieved on May 4, 2011, from http://www.smokefreens.ca/nova-scotia-tobacco-control/pricing-and-taxation/

857. Public Health Agency of Canada. (2011-03-08). *Our Health Our Future: A National Dialogue on Healthy Weights*. Retrieved on March 9, 2011, from http://www.phac-aspc.gc.ca/media/nr-rp/2011/2011_0307a-eng.php

858. Statistics Canada. (2010). *2006 Census Dictionary*. (Ottawa: Statistics Canada).

859. Statistics Canada. (2003-08-31). *Canadian Community Health Survey – Mental Health and Well-being (CCHS)*. Retrieved on July 13, 2011, from http://www.statcan.gc.ca/cgi-bin/imdb/p2SV.pl?Function=getSurvey&SurvId=20251&SurvVer=1&InstaId=20892&InstaVer=1&SDDS=5015&lang=en&db=imdb&adm=8&dis=2

860. Canadian Study of Health and Aging. (n.d.). *Clinical Examination*. Retrieved on June 17, 2010, from http://www.csha.ca/r_clinical_examination.asp

861. Statistics Canada. (2009). *Canadian Community Health Survey (CCHS): 2009 Questionnaire.* (Ottawa: Statistics Canada).

862. Statistics Canada. (2009). *Income in Canada, 2009.* (Ottawa: Statistics Canada).

863. Canadian Cancer Society's Steering Committee. (2010). *Canadian Cancer Statistics, 2010.* (Toronto: Canadian Cancer Society).

864. Statistics Canada. (2010-11-08). *CANSIM Table 102-0522 Deaths, by cause, Chapter II: Neoplasms (C00 to D48), age group and sex, Canada, annual* [Data File]. Retrieved on February 24, 2011, from http://cansim2.statcan.gc.ca/cgi-win/cnsmcgi.pgm?Lang=E&ArrayId=1020522&Array_Pick=1&RootDir=CII/&ResultTemplate=CII/CII___

865. Public Health Agency of Canada. (2010-10-13). *Reported cases of notifiable STI from January 1 to June 30, 2009 and January 1 to June 30, 2010 and corresponding annual rates for the years 2009 and 2010* [Data File]. Retrieved on February 23, 2011, from http://www.phac-aspc.gc.ca/std-mts/stdcases-casmts/index-eng.php

866. Health Canada. (2010-06-30). *Canadian Alcohol and Drug Use Monitoring Survey* [Data File]. Retrieved on November 23, 2010, from http://www.hc-sc.gc.ca/hc-ps/drugs-drogues/stat/_2009/tables-tableaux-eng.php

867. Statistics Canada. (2010-11-08). *CANSIM Table 102-0529 Deaths, by cause, Chapter IX: Diseases of the circulatory system (I00 to I99), age group and sex, Canada, annual* [Data File]. Retrieved on February 24, 2011, from http://cansim2.statcan.gc.ca/cgi-win/cnsmcgi.pgm?Lang=E&ArrayId=1020529&Array_Pick=1&RootDir=CII/&ResultTemplate=CII/CII___

868. Canada Mortgage and Housing Corporation. (2009). *2006 Census Housing Series: Issue 3 – The Adequacy, Suitability, and Affordability of Canadian Housing, 1991-2006.* (Canada: Canada Mortgage and Housing Corporation).

869. Public Health Agency of Canada. (2009). *Report from the National Diabetes Surveillance System: Diabetes in Canada, 2009.* (Ottawa: Public Health Agency of Canada).

870. Environment Canada. (2010-12-23). *National Air Quality*. Retrieved on July 13, 2011, from http://ec.gc.ca/indicateurs-indicators/default.asp?lang=en&n=4B5631F9-1

871. Statistics Canada. (2009-05-25). *37a-HLT Health adjusted life expectancy (HALE)*. Retrieved on February 24, 2011, from http://www.statcan.gc.ca/pub/82-401-x/2009000/considerations/hlt/37ahlt-eng.htm

872. Statistics Canada. (2011-02-17). *Place of birth of person*. Retrieved on June 27, 2011, from http://www.statcan.ca/english/concepts/definitions/birth.htm

873. Statistics Canada. (2010-02-22). *CANSIM Table 102-0506 Infant deaths and mortality rates, by age group and sex, Canada, annual* [Data File]. Retrieved on February 9, 2011, from http://cansim2.statcan.gc.ca/cgi-win/cnsmcgi.pgm?Lang=E&ArrayId=1020506&Array_Pick=1&RootDir=CII/&ResultTemplate=CII/CII___

874. Statistics Canada. (2010-02-22). *CANSIM Table 102-0512 Life expectancy, at birth and at age 65, by sex, Canada, provinces and territories, annual* [Data File]. Retrieved on February 24, 2011, from http://www5.statcan.gc.ca/cansim/pick-choisir?lang=eng&id=1020512&pattern=1020512&searchTypeByValue=1

875. Parikh, S. V., Lam, R. W., & CANMAT Depression Work Group. (2001). Clinical Guidelines for the Treatment of Depressive Disorders. I. Definitions, Prevalence, and Health Burden. *The Canadian Journal of Psychiatry,* 46(S1), 13S-20S.

876. Statistics Canada. (2010-11-08). *CANSIM Table 102-0526 Deaths, by cause, Chapter VI: Diseases of the nervous system (G00 to G99), age group and sex, Canada, annual* [Data File]. Retrieved on February 24, 2011, from http://cansim2.statcan.gc.ca/cgi-win/cnsmcgi.pgm?Lang=E&ArrayId=1020526&Array_Pick=1&RootDir=CII/&ResultTemplate=CII/CII___

877. United Nations Standing Committee on Nutrition (SCN). (2004). *5th Report on the World Nutrition Situation: Nutrition for Improved Development Outcomes – March 2004.* (Geneva: UN Standing Committee on Nutrition).

878. Statistics Canada. (2010). *Income in Canada, 2008.* (Ottawa: Statistics Canada).

References

879. Statistics Canada. (2011-06-15). *CANSIM Table 202-0801 – Low income cut-offs before and after tax by community and family size, 2009 constant dollars, annual (Dollars), 1976/2009* [Data File]. Retrieved on June 21, 2011, from http://www.statcan.gc.ca/pub/75-202-x/2009000/tbl-eng.htm

880. Statistics Canada. (2010). April to June 2010. *Quarterly Demographic Estimates,* 24(2), 1-65.

881. Statistics Canada. (2011-02-25). *CANSIM Table 102-4309 Mortality and potential years of life lost, by selected causes of death and sex, three-year average, Canada, provinces, territories, health regions and peer groups, occasional* [Data File]. Retrieved on July 12, 2011, from http://www5.statcan.gc.ca/cansim/a05?lang=eng&id=1024309

882. Statistics Canada. (2010-11-08). *CANSIM Table 102-0530 Deaths, by cause, Chapter X: Diseases of the respiratory system (J00 to J99), age group and sex, Canada, annual* [Data File]. Retrieved on February 24, 2011, from http://cansim2.statcan.gc.ca/cgi-win/cnsmcgi.pgm?Lang=E&ArrayId=1020530&Array_Pick=1&RootDir=CII/&ResultTemplate=CII/CII___

883. Statistics Canada. (2006). *Canadian Community Health Survey (CCHS) Cycle 3.1 (2005) Public Use Microdata File (PUMF) User Guide.* (Ottawa: Statistics Canada).

884. Statistics Canada. (2002). *Canadian Community Health Survey Mental Health and Well-being Cycle 1.2 Master File Documentation.* (Ottawa: Statistics Canada).

885. Statistics Canada. (2009-11-20). *Urban area (UA).* Retrieved on February 22, 2011, from http://www12.statcan.ca/census-recensement/2006/ref/dict/geo049-eng.cfm

886. Statistics Canada. (2010). *Uniform Crime Reporting Survey – Concepts and Definitions.* (Ottawa: Statistics Canada).